FITS Generic
Instrument Flight Instructor Certification
Syllabus

December 2007

Table of Contents

SECTION 1 – INTRODUCTION

How to use this Syllabus

This syllabus is an FAA Industry Training Standards (FITS) accepted training method. This generic syllabus is a guide for you to use in developing your specific FITS curriculum. This FITS Syllabus is intended as a guide for aircraft manufacturers, training providers, and flight schools to use in developing a specific FITS curriculum for their aircraft, geographic region, and customer base. This syllabus is unique in several ways. First, it is a syllabus that uses real-world scenarios as the foundation of the training. Flight maneuvers are still a vital part of flight training and flight maneuvers are a part of this syllabus, but the use of real-world scenarios is used to also enhance the pilot's decision making skills. The syllabus presents situations and circumstances that pilots face everyday as learning experiences and lessons. The primary tenant of FITS training is that you prepare for the real world of flying, by acting as a pilot while in training. Therefore, throughout the syllabus, the pilot in training (PT) will take on different tasks or jobs just as if they were already certificated pilots. The second important unique feature of this syllabus and of FITS training is that it is all competency based. When the pilot in training (PT) masters a particular skill area in the syllabus, he/she moves on regardless of how much time it takes to reach that point of mastery. This means that each lesson does not necessarily equal one flight. It may take several flights before the PT masters the elements of the lesson and is ready to move on to the next lesson. Consequently, the amount of total flight hours a PT has when the syllabus is completed may be more or less than the minimum times under current aviation regulations. Please note that FITS training is conducted under the current CFAR's. Although philosophically, FITS is competency based, many training organizations must still require their students to meet the FAA minimum training hours. Courses under CFAR Part 142 and section 141.55(d) may be approved to train to competency and not require a minimum number of hours.

Regulations

This generic syllabus is adaptable to 14 CFR Parts 142, 141, or 61. Please refer to the appropriate regulations for your specific curriculum requirements.

FITS Acceptance

FITS acceptance is achieved by developing your specific curriculum and submitting it to your local Flight Standards District Office for operations under CFAR Part 61, 141, and 142. If you are an OEM (Original Equipment Manufacturer, you should submit your curriculum to the FAA FITS Program Manager, AFS-800, Federal Aviation Administration, 800 Independence Ave. SW, Washington, DC 20591. A cover letter explaining exactly for what courses you are requesting FITS acceptance and under what regulations should accompany the curriculum. *Use of the FITS logo*. Once accepted, you are free to use the FITS Logo on all accepted curriculums and in advertising about this particular curriculum. The FITS logo cannot be used in relationship to non-FITS products.

The Four Levels of FITS Acceptance

1. Accepted FITS Flight Syllabus: Will contain all the tenets of FITS and will include flight in an aircraft or at least an Advanced Training Device. Examples of this type of syllabus include initial, transition, and recurrent training syllabi.

2. Accepted FITS Syllabus (No flight): It is not intended to teach the pilot in training (PT) psychomotor pilot skills or full cockpit/aircraft integration in a specific aircraft. It's intended to enhance certain skill sets of the PT. Application of this level of acceptance may be to teach the PT how to use a new glass cockpit display or develop better Single Pilot Resource Management (SRM) skills. A FITS Accepted Syllabus will also contain all the tenets of FITS. A live instructor will lead the training.

3. Accepted FITS Self-Learning Program: This acceptance is between the FITS Accepted Syllabus and FITS Supporting Material. It may be either an interactive CD or on-line course on a specific application or subject. The purpose of this training is to learn a specific piece of equipment or enhance a specific higher order thinking skill. Scenario training and/or testing is required. Since a live instructor is not required, Learner Centered Grading may not be applicable.
    a. If the program is for a piece of equipment (i.e. GPS), the equipment should act like the actual piece of equipment during the interaction with the equipment as much as feasible. After basic training on the equipment, scenarios should be used to demonstrate PT proficiency and knowledge.
    b. For non equipment programs (i.e. ADM development) scenarios with multi-string testing should be used.

4. Accepted FITS Supporting Material: These products do not meet the training tenets of FITS (i.e. may not be scenario based), but the subject is integral to FITS. These products could be accepted on their own technical merit, but only as a part of an Accepted FITS Flight Syllabus or FITS Syllabus. For example, a CBI on risk management could be accepted as and used as a module in a FITS accepted transition syllabus. Original equipment manufacturers (Cessna, Cirrus, Eclipse, etc.) or developers of training materials (Sporty's, Jeppesen, King Schools, etc.) normally develop Accepted FITS Supporting Material.

SECTION 2 – FITS TERMINOLOGY

Automation Bias – The relative willingness of the pilot to trust and utilize automated systems.
Automation Competence – The demonstrated ability to understand and operate the automated systems installed in the aircraft.
Automation Management – The demonstrated ability to control and navigate an aircraft by means of the automated systems installed in the aircraft.
Automated Navigation leg – A flight of 30 minutes or more conducted between two airports in which the aircraft is controlled primarily by the autopilot and the on board navigation systems.
Automation Surprise – Occurs when the automation behaves in a manner that is different from what the operator is expecting.
Candidate Assessment – A system of critical thinking and skill evaluations designed to assess a pilot in training's readiness to begin training at the required level.
Critical Safety Tasks/Events – Those mission related tasks/events that if not accomplished quickly and accurately may result in damage to the aircraft or loss of life.
Data link Situational Awareness Systems – Systems that feed real-time information to the cockpit on weather, traffic, terrain, and flight planning. This information may be displayed on the PFD, MFD, or on other related cockpit displays.
Emergency Escape Maneuver – A maneuver (or series of maneuvers) performed manually or with the aid of the aircraft's automated systems that will allow a pilot to successfully escape from an unanticipated flight into Instrument Meteorological Conditions (IMC) or other life-threatening situations.
IFR Automated Navigation Leg – A leg flown on autopilot beginning from 500 ft AGL on departure (unless the limitations of the autopilot require a higher altitude, then from that altitude) until reaching the decision altitude or missed approach point on the instrument approach (unless the limitations of the autopilot require a higher altitude, then from that altitude). If a missed approach is flown, it will also be flown using the autopilot and on-board navigation systems.
Light Turbine TAA –is a jet or turboprop Technically Advance Aircraft (TAA) certified for single-pilot operations, weighing 12,500 lbs or less, that may be equipped with cabin pressurization, and may be capable of operating in Class A airspace on normal mission profiles.
Mission Related Tasks – Those tasks required for safe and effective operations within the aircraft's certificated performance envelope.
Multi-Function Display MFD – Any display that combines primarily navigation, systems, and situational awareness information onto a single electronic display.
Primary Flight Display (PFD) – Any display that combines the primary six flight instruments, plus other related navigation and situational awareness information into a single electronic display.
Proficiency-Based Qualification – Aviation task qualification based on demonstrated performance rather than other flight time or experience.
Scenario Based Training – A training system that uses a highly structured script of real-world experiences to address flight-training objectives in an operational environment. Such training can include initial training, transition training, upgrade training, recurrent training, and special training. The appropriate term should appear with the term "Scenario Based," e.g., "Scenario Based Transition Training," to reflect the specific application.

Simulation Training Only – Any use of animation and/or actual representations of aircraft systems to simulate the flight environment. Pilot in training interaction with the simulation and task fidelity for the task to be performed are required for effective simulation.
Single Pilot Resource Management (SRM) – The art and science of managing all resources (both on-board the aircraft and from outside sources) available to a single pilot (prior and during flight) to ensure the successful outcome of the flight is never in doubt.
Technically Advanced Aircraft (TAA) – A General Aviation aircraft that contains the following design features: Advanced automated cockpit such as MFD or PFD or other variations of a Glass Cockpit, or a traditional cockpit with GPS navigation capability, moving map display and autopilot. It includes aircraft used in both VFR and IFR operations, with systems certified to either VFR or IFR standards. TAA's may also have automated engine and systems management.
VFR Automated Navigation Leg – A leg flown on autopilot from 1,000 ft AGL on the departure until entry to the 45-degree leg in the VFR pattern.

SECTION 3 – TRAINING PHILOSOPHY

FITS Training is a scenario-based approach to training pilots. It emphasizes the development of critical thinking and flight management skills, rather than solely on traditional maneuver-based skills. The goal of this training philosophy is the accelerated acquisition of higher-level decision-making skills. Such skills are necessary to prevent pilot-induced accidents.

FITS Training Goals

- Higher Order Thinking Skills
- Aeronautical Decision Making
- Situational Awareness
- Pattern Recognition (Emergency Procedures) and Judgment Skills
- Automation Competence
- Planning and Execution
- Procedural Knowledge
- Psychomotor (Hand-Eye Coordination) Skills
- Risk Management
- Task Management
- Automation Management
- Controlled Flight into Terrain (CFIT) Awareness

Previous training philosophies assumed that newly certified pilots generally remain in the local area until their aviation skills are refined. This is no longer true with the advent of Technically Advanced Aircraft (TAA). Offering superior avionics and performance capabilities, these aircraft travel faster and further than their predecessors. As a result, a growing number of entry-level pilots are suddenly capable of long distance/high speed travel—and its inherent challenges. Flights of this nature routinely span diverse weather systems and topography requiring advanced flight planning and operational skills. Advanced cockpits and avionics, while generally considered enhancements, require increased technical knowledge and finely tuned automation competence. Without these skills, the potential for an increased number of pilot-induced accidents is daunting. A different method of training is required to accelerate the acquisition of these skills during the training process.

Research has proven that learning is enhanced when training is realistic. In addition, the underlying skills needed to make good judgments and decisions are teachable. Both the military and commercial airlines have embraced these principles through the integration of Line Oriented Flight Training (LOFT) and Crew Resource Management (CRM) training into their qualification programs. Both LOFT and CRM lessons mimic real-life scenarios as a means to expose pilots to realistic operations and critical decision-making opportunities. The most significant shift in these programs has been the movement from traditional maneuver-based training to incorporate training that is scenario-based.

Maneuver-based training emphasizes the mastery of individual tasks or elements. Regulations, as well as Practical Test Standards (PTS), drive completion standards. Flight hours and the ability to fly within specified tolerances determine competence. The emphasis is on development of motor skills to satisfactorily accomplish individual maneuvers. Only limited emphasis is placed

on decision-making. As a result, when the newly trained pilot flies in the real-world environment, he or she is inadequately prepared to make crucial decisions. Scenario Based Training (SBT) and Single Pilot Resource Management (SRM) are similar to LOFT and CRM training. However, each is tailored to the pilot's training needs. These techniques use the same individual tasks that are found in Maneuver Based Training, but script them into scenarios that mimic real-life cross-country travel. By emphasizing the goal of flying safely, the pilot in training correlates the importance of individual training maneuvers to safe mission accomplishment. In addition, the instructor continuously interjects "What If?" discussions as a means to provide the trainee with increased exposure to proper decision-making. Because the "What If?" discussions are in reference to the scenario, there is a clear connection between decisions made and the final outcome. The "What If?" discussions are designed to accelerate the development of decision-making skills by posing situations for the pilot in training to consider. Once again, research has shown these types of discussions help build judgment and offset low experience.

Questions or situations posed by the instructor must be open-ended (rather than requiring only rote or one-line responses). In addition, the instructor guides the pilot in training through the decision process by: 1) Posing a question or situation that engages the pilot in training in some form of decision-making activity. 2) Examining the decisions made. 3) Exploring other ways to solve the problem. 4) Evaluating which way is best. For example, when the pilot in training is given a simulated engine failure, the instructor might ask questions such as: "What should we do now?" Or, "Why did you pick that place to land?" Or, "Is there a better choice?" Or, "Which place is the safest?" Or, "Why?" These questions force the pilot in training to focus on the decision process. This accelerates the acquisition of improved judgment, which is simply the decision-making process resulting from experience. It is not innate. All of our life experiences mold the judgment tendencies we bring to our flight situations. By introducing decision-making opportunities into routine training lessons, we speed-up acquisition of experience, thus enhancing judgment.

For further information, please reference "Aeronautical Decision Making" in the FAA Aviation Instructor's Handbook.

SECTION 4 – TEACHING METHODS

Scenario Based Training

For Scenario Based Training (SBT) to be effective there must be a purpose for the flight and consequences if it is not completed as planned. It is vital that the pilot in training and the Instructor communicate the following information well in advance of every training flight:

Purpose of flight
Scenario destination(s)
Desired pilot in training learning outcomes
Desired level of pilot in training performance
Desired level of automation assistance
Possible in-flight scenario changes (during later stages of the program)

With the guidance of the Instructor, the pilot in training should make the flight scenario as realistic as possible. This means the pilot in training will know where they are going and what will transpire during the flight. While the actual flight may deviate from the original plan, it allows the pilot in training to be placed in a realistic scenario.

Scenario Planning – Prior to the flight, the Instructor will brief the scenario to be planned. The Instructor will review the plan and offer guidance on how to make the lesson more effective. Discussion, in part, will reflect ways in which the Instructor can most effectively draw out a pilot in training's knowledge and decision processes. This enables the Instructor to analyze and evaluate the pilot in training's level of understanding. After discussion with the Instructor, the pilot in training will plan the flight to include:

Reason to go flying
Route
Destination(s)
Weather
Notams
Desired pilot in training learning outcomes
Possible alternate scenarios and emergency procedures

Example of Scenario Based Training

Consider the following example: During traditional MBT, the Instructor provides a detailed explanation on how to control for wind drift. The explanation includes a thorough coverage of heading, speed, angle of bank, altitude, terrain, and wind direction plus velocity. The explanation is followed by a demonstration and repeated practice of a specific flight maneuver, such as turns around a point or S turns across the road until the maneuver can be consistently accomplished in a safe and effective manner within a specified limit of heading, altitude, and airspeed***. At the end of this lesson, the pilot in training is only capable of performing the maneuver.***

Now, consider a different example: The pilot in training is asked to plan for the arrival at a specific uncontrolled airport. The planning should take into consideration the possible wind conditions, arrival paths, airport information and communication procedures, available runways, recommended traffic patterns, courses of action, and preparation for unexpected situations. Upon arrival at the airport the pilot in training makes decisions (with guidance and feedback as necessary) to safely enter and fly the traffic pattern using proper wind drift correction techniques. This is followed by a discussion of what was done, why it was done, the consequences, and other possible courses of action and how it applies to other airports. ***At the end of this lesson the pilot in training is capable of explaining the safe arrival at any uncontrolled airport in any wind condition.***

The first example is one of traditional learning, where the focus is on the maneuver. The second is an example of scenario-based training, where the focus is on real world performance. Many course developers in flight training have built on the former option. Traditional training methods in many instances are giving way to more realistic and fluid forms of learning. The aviation industry is moving from traditional knowledge-related learning outcomes to an emphasis on increased internalized learning in which learners are able to assess situations and appropriately react. Knowledge components are becoming an important side effect of a dynamic learning experience.

Reality is the ultimate learning situation and scenario-based training attempts to get as close as possible to this ideal. In simple terms, scenario-based training addresses learning that occurs in a context or situation. It is based on the concept of situated cognition, which is the idea that knowledge cannot be known and fully understood independent of its context. ***In other words, we learn better, the more realistic the situation is and the more we are counted on to perform.***

Michael Hebron, a well-known golf instructor, suggests that there is little the expert can do in the way of teaching the learner particular motions of the golf swing. Instead, learning has to be experiential and feedback based; only a handful of basic principles are involved. The same goes, he says, for any and all kinds of learning. ***"It's about learning, not about golf."***

Scenario-based training (SBT) is similar to the experiential model of learning. The adherents of experiential learning are fairly adamant about how people learn. **They would tell us that learning seldom takes place by rote.** Learning occurs because we immerse ourselves in a situation in which we are forced to perform. We get feedback from our environment and adjust our behavior. We do this automatically and with such frequency in a compressed timeframe that we hardly notice we are going through a learning process. Indeed, we may not even be able to recite particular principles or describe how and why we engaged in a specific behavior. Yet, we are still able to replicate the behavior with increasing skill as we practice. If we could ask Mark MacGuire to map out the actions that describe how he hits a home run, he would probable look at us dumbfounded and say, "I just do it." On the other hand, I am sure Mark MacGuire could describe in detail the size and characteristics of every one of the baseball diamonds he was playing in as well as the strengths, weaknesses and common practices of every one of the pitchers he faced.

Scenario-based training best fits an open philosophy of blended and multiple learning solutions in which change and experience are valued and the lines between training and performance improvement are blurred. For scenario-based training to be effective it must generally follow a performance improvement imperative. The focus is on improved outcomes rather than the acquisition of knowledge and skills. Success requires a blended, performance-based, and reinforced solution.

An athletic exercise such as Basketball might prove to be a very good example. Clearly, the team's objective is to win, which means scoring more points than the other team. That's the performance objective. Each member of the team also has personal performance goals. The coach can stand at a blackboard and explain defensive and offensive diagrams with players, the rules of the game, and so forth. By doing that, he has identified a set of learning subjects (rules and play patterns) that are best delivered in a traditional fashion.

On the other hand, the application of these subjects and the level of proficiency required in their use can only be learned on the court. The scenario in this example is a scrimmage. During a typical scrimmage, experienced players are mixed with non-experienced players and matched against a similarly constituted practice team. The two teams play a game, and the coaches stop the action at appropriate intervals to offer feedback. Learning takes place in a highly iterative fashion often without the player realizing that specific bits of learning are taking place. The scrimmage provides a player with the opportunity to make several decisions, engage in complex and fast-paced behaviors, and immediately see impact. The coach may have some general ideas of basketball in mind and perhaps some specific learning objectives for the day, but in most cases does not know precisely which of them will be addressed during the scrimmage – that depends on the flow of practice.

Similarly, most flight training consists of both kinds of subjects: those amenable to traditional instructional design techniques and those better approached through scenario-based training. Neither is all that useful without the other. Before a learner can engage in a scenario, he or she needs some basic subject knowledge and skill. However, the strongest adherents of the scenario-based approach suggest very little subject knowledge is needed in order to take advantage of SBT. **The main point is that knowledge without application is worth very little.**

The first step in the scenario design process is to engage a number of subject matter experts in a series of discovery sessions and interactive meetings for the purpose of identifying issues and learning objectives including higher-level and performance objectives. With clearly identified learning objectives, appropriate techniques and where to use them can be specified. In the basketball example, players need some rudimentary knowledge of the game and basic skill in order to make the practice session efficient and effective. Consequently, the required knowledge and skill objects need to be integrated into the actual sessions of practice. So, like a train pulling a number of boxcars, a traditional piece of learning precedes or is integrated into a scenario, with the scenario dictating what information is covered in the traditional piece. If, as described in the scrimmage session above, you don't precisely know what will come up in the practice, you shouldn't waste time in the traditional preparation. It's more efficient to share very basic

principles and devote your resources to preparing to teach any situation that may arise. What is important, however, is to establish the boundaries of the scenarios. These are done using performance-based learning objectives (Internalized Responses) as opposed to knowledge-based learning objectives, and are worded as performance objectives rather than skill-based behavior objectives.

For example, in the traditional, more repetitive, intensive flight training sessions, objectives are knowledge-based and tend to be specific and limited. On the other hand, in scenario-based training we are simply trying to determine whether the learner has the minimum necessary knowledge/skill to qualify for the scenario. With scenario-based objectives, we are looking for performance behaviors and indicators of internalized responses, which are usually situational recognition indicators.

We can see this clearly illustrated in an automobile driver-training example (Table 1). The traditional Behavior (skill) objective is knowledge based and the SBT Performance objective is performance-based (responses which are situational recognition indicators).

Table 1: Driving Learning Objectives

Knowledge		**Behavior (Skill)**
Traditional	Know what a STOP sign and a Railroad crossing sign look like and what they mean. Describe the correct parallel parking procedure	Drive an automatic shift car on a county road over a 2-mile route with one RR crossing and 2 full stops. Maneuver the automobile into a normal parallel parking space between 2 other cars.
Internalized Response		**Performance**
Scenario-Based	Appropriately apply the rules of the road for driving in the local area in moderate traffic. Determine the shortest route and apply the appropriate procedures for driving in heavy and complex traffic conditions.	Drive from your garage to the Shopping Center on the same side of town Drive from your garage to a specified address in another town over 50 miles away on the Interstate and an Expressway system.

Scenario design sessions should resemble focus groups in which participants work through a series of issues, from broad scenario outlines to very specific scenario details. Direct participants to address two general areas: content and style.

Sessions to determine content usually ask participants to:

- Share experiences about the subject event
- Describe desirable outcomes

- Share best practices or known instances of consistent achievement of the desired outcomes
- Create indicators of successful outcomes
- Create strategies expected to lead to successful outcomes
- Establish descriptions of successful and unsuccessful performance behaviors related to these strategies (note that outcome measures and performance behaviors will constitute the evaluative criteria for assessing performance in the scenario).

After the content discussion, ask participants to review the look, feel, and flow of the scenario. This is much like the process used for instructional design. Develop a storyboard with a general beginning and end, using the boundaries established earlier. Talk through the scenario in the session and, through iteration, create a flow script from the results.

With these two elements in place, you can begin the actual construction of the scenario. A subcommittee of Flight Instructors and subject matter experts (SMEs) should review and revise the scenario to fit into the whole course of instruction.

Scenarios are meant to be real situations. In an ideal world, an assessment team would evaluate behavior and agree on several critical performance dimensions. The key indicators should come from the initial SMEs, in which they also create strategies expected to lead to successful outcomes and establish descriptions of successful and unsuccessful performance behaviors. Outcome measures and performance behaviors will constitute the evaluative criteria for assessing performance in the scenario.

Examples of indicators of successful outcomes are whether an airplane arrived and was secured at the destination airport and how safe were all aspects of the flight or were there any regulatory violations. Strategies are clusters of internally consistent behaviors directed toward the achievement of a goal. Performance behaviors are the key behaviors in those strategies. Establishing these dimensions should be a group process and is usually completed in the subject matter expert design session.

Review, obtain learner feedback, and revise**.** All learning, even the most traditional, is iterative. The key to creating a useful scenario is to see it as a learning experience for the designers as well as the learners. This means that results and comments about the learning experience are shared with the SMEs and the designer so that they can review and modify the scenarios as necessary. Obtain open –ended qualitative data from the learner and the Flight Instructor about the experience and review the data with the SME's and the designer.

Based on this kind of feedback, scenarios can be revised to better target the learner population. That process mirrors the original design steps. There are some cautions, however, in the revision process. First, there is an old saying: “It doesn’t take a cannon to blow away a tin can.” Basically, revisions should not needlessly complicate the scenario or the technology needed to employ it. It is crucial to weigh the risks of complication against the genuine learning needs. Before any revision, affirm the original purpose statement and the categorization of learning elements.

Also, do not let principles and main points become diluted by revisions. It is tempting to add more items and nuances in a scenario, but doing so further complicates the learning process. Save complexity for a full-scale "capstone" experience. Remember, adding an item in traditional learning complicates the learning process in a linear fashion. In scenarios, complication grows non-linearly with the addition of learning items. So, beware. A rule of thumb is to reduce rather than increase principles and main points in a revision.

Always review success and failure paths for realism. Remember that any change in a scenario item complicates all items on the path following it. Any time a decision node is altered, chances are that the decision nodes and information items following it must change. With every revision, follow and ensure the consistency of associated paths.

Finally, remember that traditional learning elements should service the scenario-based learning elements, which are situated in a real context and based on the idea that knowledge cannot be known and fully understood independent of its context. It is essential to place boundaries around scenarios to make the transitions between scenarios and traditional learning as efficient as possible.

Table 2: The Main Points

- Scenario-based training (SBT) is situated in a real context and is based on the idea that knowledge cannot be known and fully understood independent of its context.
- SBT accords with a performance improvement and behavior change philosophy of the learning function.
- SBT is different from traditional instructional design and one must be aware of the differences to successfully employ SBT.
- All learning solutions should employ both traditional and scenario-based training.
- Traditional learning elements should service the scenario-based training elements.
- It is essential to place boundaries around scenarios to make the transitions between scenarios and traditional learning as efficient as possible.
- Use interactive discovery techniques with subject matter experts (SMEs) and designers to establish the purpose and outcomes of scenarios create the scenarios and appropriate strategies and performance behaviors, and develop learner evaluation criteria.
- SBT occurs by following success and failure paths through a realistic situation. Typically, these paths must be limited to stress the main learning objective. Otherwise the scenario can become too complex and unwieldy.
- Open-ended qualitative learner feedback is key to successful scenario revision, but revisions should not further complicate the scenario unless highly justified.

Kindley, R. (2002). *Scenario-Based E-Learning: A Step Beyond Traditional E-Learning.* Retrieved 02/02/05 from http://www.learningcircuits.org/2002/may2002/kindley.html

Single Pilot Resource Management

Single Pilot Resource Management (SRM) is defined as the art and science of managing all the resources (both on-board the aircraft and from outside sources) available to a single-pilot (prior and during flight) to ensure that the successful outcome of the flight is never in doubt. Most of us remember a favorite Instructor from our past that showed us the best way to solve in-flight problems and unforeseen circumstances. The FITS team has combined much of this collective CFI body of knowledge with some innovative teaching methods to give pilots practical tools to teach aeronautical decision-making and judgment. SRM includes the concepts of Aeronautical Decision Making (ADM), Risk Management (RM), Task Management (TM), Automation Management (AM), Controlled Flight Into Terrain (CFIT) Awareness, and Situational Awareness (SA). SRM training helps the pilot maintain situational awareness by managing the automation and associated aircraft control and navigation tasks. This enables the pilot to accurately assess and manage risk and make accurate and timely decisions. ***This is what SRM is all about, helping pilots learn how to gather information, analyze it, and make decisions.***

Teaching pilots to identify problems, analyze the information, and make informed and timely decisions is one of the most difficult tasks for Instructors. By way of comparison, the training of specific maneuvers is fairly straightforward and reasonably easy to understand. We explain, demonstrate, and practice a maneuver until proficiency is achieved. We are teaching the pilot in training ***"what to think"*** about each maneuver, and sign them off when they demonstrate proficiency. Teaching judgment is harder. Now we are faced with teaching the pilot in training ***"how to think"*** in the endless variety of situations they may encounter while flying out in the "real world." Often, they learn this by watching Instructors. They observe reactions, and more importantly, actions, during flight situations and they often adapt the styles of the Instructor to their own personalities.

Pilots in training may range from 100-hour VFR-only pilots, all the way to multi-thousand hours ATP's. The strength of this format is that the participants learn not only from their Flight Instructor, but from each other as well. The collective knowledge of many pilots, when guided by an experienced CFI, is much greater than the knowledge of each participant, including the Flight Instructor. In these scenarios, there are no right answers, rather each pilot is expected to analyze each situation in light of their experience level, personal minimums, and current physical and mental readiness level, and make their own decision.

The SRM scenarios, developed by the FITS team, incorporate several maneuvers and flight situations into realistic flight scenarios. The scenarios are much like the Line Oriented Flight Training (LOFT) employed by the major corporate and airline training organizations for years. Table 3 gives an example of the performance, standards and conditions using SRM.

Table 3: Single Pilot Resource Management (SRM)

Performance The training task is:	**Standards** The pilot in training will:	**Conditions** The training is conducted during:
1. Task Management (TM)	Prioritize and select the most appropriate tasks (or series of tasks) to ensure successful completion of the training scenario.	Note: All tasks under SRM will be embedded into the curriculum and the training will occur selectively during all phases of training. SRM will be graded as it occurs during the training scenario syllabus.
2. Automation Management (AM)	Program and utilize the most appropriate and useful modes of cockpit automation to ensure successful completion of the training scenario.	Note: All tasks under SRM will be embedded into the curriculum and the training will occur selectively during all phases of training. SRM will be graded as it occurs during the training scenario syllabus.
3. Risk Management (RM) and Aeronautical Decision-Making (ADM)	Consistently make informed decisions in a timely manner based on the task at hand and a thorough knowledge and use of all available resources.	Note: All tasks under SRM will be embedded into the curriculum and the training will occur selectively during all phases of training. SRM will be graded as it occurs during the training scenario syllabus.
4. Situational Awareness (SA)	Be aware of all factors such as traffic, weather, fuel state, aircraft mechanical condition, and pilot fatigue level that may have an impact on the successful completion of the training scenario.	Note: All tasks under SRM will be embedded into the curriculum and the training will occur selectively during all phases of training. SRM will be graded as it occurs during the training scenario syllabus.
5. Controlled Flight Into Terrain (CFIT) Awareness	Understand, describe, and apply techniques to avoid CFIT encounters: a. During inadvertent encounters with IMC during VFR flight. b. During system and navigation failures and physiological incidents during IFR flight.	Note: All tasks under SRM will be embedded into the curriculum and the training will occur selectively during all phases of training. SRM will be graded as it occurs during the training scenario syllabus.

The "5P" Check

SRM sounds good on paper, however, it requires a way for pilots to understand and deploy it in their daily flights. This practical application is called the "Five P's (5P's)" The 5P's consist of "the Plan, the Plane, the Pilot, the Passengers, and the Programming". Each of these areas consists of a set of challenges and opportunities that face a single pilot. And each can substantially increase or decrease the risk of successfully completing the flight based on the pilot's ability to make informed and timely decisions. The 5P's are used to evaluate the pilot's current situation at key decision points during the flight, or when an emergency arises. These decision points include, pre-flight, pre-takeoff, hourly or at the midpoint of the flight, pre-descent, and just prior to the final approach fix or for VFR operations, just prior to entering the traffic pattern.

The 5P's are based on the idea that the pilots have essentially five variables that impact his or her environment and that can cause the pilot to make a single critical decision, or several less critical decisions, that when added together can create a critical outcome. These variables are the Plan, the Plane, the Pilot, the Passengers, and the Programming. The authors of the FITS concept felt that current decision-making models tended to be reactionary in nature. A change has to occur and be detected to drive a risk management decision by the pilot. For instance, many pilots ascribe to the use of risk management sheets that are filled out by the pilot prior to takeoff. These catalog risks that may be encountered that day and turn them into numerical values. If the total exceeds a certain level, the flight is altered or cancelled. Informal research shows that while these are useful documents for teaching risk factors, they are almost never used outside of formal training programs. The number of pilots who use them before each and every flight approaches zero. The 5P concept is an attempt to take the information contained in those sheets and in the other available models and operationalize it.

The 5P concept relies on the pilot to adopt a "scheduled" review of the critical variables at points in the flight where decisions are most likely to be effective. For instance, the easiest point to cancel a flight due to bad weather is before the pilot and passengers walk out the door and load the aircraft. So the first decision point is Pre-Flight in the flight planning room, where all the information is readily available to make a sound decision, and where communication and FBO services are readily available to make alternate travel plans.

The second easiest point in the flight to make a critical safety decision is just prior to takeoff. Few pilots have ever had to make an "emergency take-off". While the point of the 5P check is to help you fly, the correct application of the 5P before takeoff is to assist in making a reasoned go-no-go decision based on all the information available. That decision will usually be to "go", with certain restrictions and changes, but may also be a "no-go". The key point is that these two points in the process of flying are critical go-no go points on each and every flight.

The third place to review the 5Ps is at the mid point of the flight. Often, pilots may wait until the ATIS is in range to check weather, yet at this point in the flight many good options have already passed behind the aircraft and pilot. Additionally, fatigue and low altitude hypoxia serve to rob the pilot of much of their energy by the end of a long and tiring flight day. This leads to a

transition from a decision-making mode to an acceptance mode on the part of the pilot. If the flight is longer than 2 hours, the 5P check should be conducted hourly.

The last two decision points are just prior to decent into the terminal area and just prior to the final approach fix, or if VFR just prior to entering the traffic pattern, as preparations for landing commence. Most pilots execute approaches with the expectation that they will land out of the approach every time. A healthier approach requires the pilot to assume that changing conditions (the 5Ps again) will cause the pilot to divert or execute the missed approach on every approach. This keeps the pilot alert to all manner of conditions that may increase risk and threaten the safe conduct of the flight. Diverting from cruise altitude saves fuel, allows unhurried use of the autopilot, and is less reactive in nature. Diverting from the final approach fix, while more difficult, still allows the pilot to plan and coordinate better, rather than executing a futile missed approach. Now lets look in detail at each of the "Five P's".

The Plan

The "Plan" can also be called the mission or the task. It contains the basic elements of cross country planning, weather, route, fuel, publications currency, etc. Unlike risk management sheets that pilot fill out before a flight, the "Plan" should be reviewed and updated several times during the course of the flight. A delayed takeoff due to maintenance, fast moving weather, and a short notice Temporary Flight Restriction (TFR) may all radically alter the plan. Several excellent flight planning software packages are available that automate this process, allowing the pilot additional time to evaluate and make decisions. Some include real time and graphical TFR depictions. The "plan" is not just about the flight plan, but the entire days events surrounding the flight and allowing the pilot to accomplish the mission. The plan is always being updated and modified and is especially responsive to changes in the other four remaining P's. If for no other reason, the 5P check reminds the pilot that the day's flight plan is real life and subject to change at any time.

Obviously the weather is a huge part of any "plan." The addition of real time data link weather information give the TAA pilot a real advantage in inclement weather, but only if the pilot is trained to retrieve, and evaluate the weather in real time without sacrificing situational awareness. And of course, weather information should drive a decision, even if that decision is to continue on the current "plan." Pilots of aircraft without datalink weather should get updated weather in-flight through a Flight Service Station and/or Flight Watch.

The Plane

Both the "plan" and the "plane" are fairly familiar to most pilots. The "plane" consists of the usual array of mechanical and cosmetic issues that every aircraft pilot, owner, or operator can identify. For example, Is everything working properly? Is the fuel situation where you expected it to be at that point? Are you using anti-ice equipment? However, with the advent of the Technically Advanced Aircraft (TAA), the "plane" has expanded to include database currency, automation status, and emergency backup systems that were unknown a few years ago. Much has been written about single pilot IFR flight both with, and without, an autopilot. While this is a personal decision, it is just that, a decision. Low IFR in a non-autopilot equipped aircraft may

depend on several of the other "P's" we will discuss. Pilot proficiency, currency, and fatigue are among them. The TAA offers many new capabilities and simplifies the basic flying tasks, but only if the pilot is properly trained and all the equipment is working as advertised.

The Pilot

This is an area all pilots are learning more and more about each day. Flying, especially when used for business transportation, can expose the pilot to high altitude flying, long distance and endurance, and more challenging weather. Technically Advance Aircraft (TAA), simply due to their advanced capabilities can expose a pilot to even more of these stresses. The traditional "IMSAFE" checklist is a good start. However, each of these factors must be taken in consideration of the cumulative effect of all of them together and the insidious effects of low altitude hypoxia. The authors informal survey of TAA pilots show that almost half fly with pulse oxymeters to display the effects of low altitude hypoxia in a graphic manner.

The combination of late night, pilot fatigue, and the effects of sustained flight above 5,000 feet may cause pilots to become less discerning, less critical of information, less decisive and more compliant and accepting. Just as the most critical portion of the flight approaches (for instance a night instrument approach, in the weather, after a four hour flight) the pilot's guard is down the most. The "5P" process emphasizes that pilot recognize the physiological situation they are placing themselves in at the end of the flight, before they even takeoff, and continue to update their condition as the flight progresses. Once identified, the pilot is in an infinitely better place to make alternate plans that lessen the effect of these factors and provide a safer solution.

The Passengers

One of the key differences between CRM and SRM is the way passengers interact with the pilot. In the airline industry the passengers have entered into a contractual agreement with the pilots company with a clearly defined set of possible outcomes. In corporate aviation, the relationship between crew and passengers is much closer, yet is still governed by a set of operating guidelines and the more formal lines of corporate authority. However, the pilot of a highly capable single engine aircraft has entered into a very personal relationship with the passengers, in fact, they sit within an arms reach all of the time.

It may be easy, especially in business travel, for the desire of the passengers to make airline connections or important business meetings to enter into the pilot's decision-making loop. If this is done in a healthy and open way, it is a very positive thing. However, this is not always the case. For instance, imagine a flight to Dulles Airport and the passengers, both close friends and business partners, need to get to Washington D.C. for an important meeting. The weather is VFR all the way to southern Virginia then turns to low IFR as the pilot approaches Dulles. A pilot employing the 5P approach might consider reserving a rental car at an airport in northern North Carolina or southern Virginia to coincide with a refueling stop. Thus, the passengers have a way to get to Washington, and the pilot has an out to avoid being pressured into continuing the flight if the conditions do not improve.

Passengers can also be pilots. The old joke says that when four Certified Flight Instructors (CFI) board a light general aviation, a NOTAM should be posted. There is some truth to this. If no one is designated as pilot in command and unplanned circumstances arise, the decision-making styles of four self confident CFI's may come into conflict. Another situation arises when an owner pilot flies with a former CFI in the right seat on a business trip. Unless a clear relationship is defined and briefed prior to the flight, the owner pilot may feel some pressure to perform for the Individual Learning Manager (possibly beyond his or her capability), and the Individual Learning Manager may feel inhibited from intervening in small decisions until it is clearly evident that the pilot is making poor decisions. This is actually a CRM situation and requires clear pre-flight understanding of roles, responsibilities, and communication. Non-Pilots can also cause the pilot to review the SRM process.

Pilots need to understand that non-pilots may not understand the level of risk involved in the flight. There is an element of risk in every flight. That's why SRM calls it risk management not risk elimination. While a pilot may feel comfortable with the risk present in a night IFR flight, the passengers may not and may manifest this during the flight. The human reaction to fear and uncertainty is as varied as the shapes of our ears. Some become quiet, some talk incessantly, and in extreme cases anger and fear are strongly manifested. This may be the last thing the pilot needs to deal with while shooting the ILS to 400 feet and a mile visibility at midnight.

.A pilot employing SRM should ensure that the passengers are involved in the decision-making and given tasks and duties to keep them busy and involved. If, upon a factual description of the risks present, the passengers decide to buy an airline ticket or rent a car, then a good decision has generally been made. This discussion also allows the pilot to move past what he or she "thinks" the passengers want to do and find out what they "actually" want to do. This removes a load of self-induced pressure from the pilot.

The Programming

The TAA adds an entirely new dimension to the way General Aviation aircraft are flown. The Glass Cockpit, GPS, and Autopilot are tremendous boons to reduce pilot workload and increase pilot situational awareness. And frankly, the programming and operation of these devises is fairly simple and straightforward. However, unlike the analog instruments they replace, they tend to capture the pilot's attention and hold it for long periods of time (like a desktop computer). To avoid this phenomenon, the pilot should plan in advance when and where the programming for approaches, route changes, and airport information gathering should be accomplished…as well as times it should not. Pilot familiarity with the equipment, the route, the local air traffic control environment, and their own capabilities vis-à-vis the automation should drive when, where, and how the automation is programmed and used.

The pilot should also consider what his or her capabilities are in response to last minute changes of the approach (and the reprogramming required) and ability to make large-scale changes (a re-route for instance) while hand flying the aircraft. Since formats are not standardized, simply moving from one manufacturer's equipment to another should give the pilot pause and require more conservative planning and decisions. ?

The SRM Decision Process

The SRM process is simple. At least five times, before and during the flight, the pilot should review and consider the "Plan, the Plane, the Pilot, the Passengers, and the Programming" and make the appropriate decision required by the current situation. It is often said that failure to make a decision is a decision. Under SRM and the 5P's, even the decision to make no changes to the current plan, is made through a careful consideration of all the risk factors present.

Example of Single Pilot Resource Management

The teaching of SRM is best accomplished in a seminar environment. Recently, the authors conducted a set of classroom seminars that presented real time flight scenarios to a room full of qualified pilots of varied experiences. The first scenario presented was a night MVFR/IFR flight from St Augustine Florida to Washington Dulles Airport. The original **"Plan"** called for a non-stop flight with a 45-minute fuel reserve. The **"Plane"** was a well-equipped TAA with a minor navigation light problem that delayed departure by an hour. The **"Passengers"** were one pilot and one non-pilot. The non-pilot seemed nervous about the trip and a little ill. Both passengers needed to get to Washington DC for an important meeting the next day. The **"Pilot"** had spent a full day at a flight refresher clinic, including a two-hour flight and a three-hour class, and felt reasonably refreshed at the 5 PM departure time. And finally, the GPS/MFD, the "**Programming**," combination looked like it would make the flight a snap. However, there were questions about the currency of the database that required the pilot's attention.

The discussion that followed revolved around the reliability of the weather data, the fatigue of the pilot landing at Dulles at 9 PM, alternate ways to get the passengers to their meeting, minimum requirements for aircraft night flight, and a more complete understanding of the benefits and challenges posed by GPS programming and database currency. The 5p's ensured that each pilot looked at the entire picture prior to making the critical decisions that would lay the groundwork for success or failure over four hours later in Washington.

Predictably, the destination weather deteriorated slowly as the flight proceeded northbound. The pilot's fatigue level, low altitude/long duration hypoxia, a succession of minor annoyances caused by the airplane and the passengers, began to become a factor. Again, the pilots applied the 5p's, and many decided to land short of Washington Dulles, check the weather, and secure a rental car as a backup for the Monday morning meeting (in fact many decided this prior to takeoff).

For the purposes of the discussion, this aircraft was equipped with a ballistic parachute system. For those that proceeded to Dulles, the scenario ended with a spatial disorientation incident at 1500 feet, 10 miles short of the airport caused by pilot fatigue, latent hypoxia, and failure to use the autopilot. For many, it was the first time they had considered all the options available, and the criticality of quick and accurate decisions. In the background, another instructor began calling out altitudes and speeds as the aircraft descended to the ground, providing an added dose of realism and pressure. Should the class initiate an unusual attitude recovery, and if it did not work should they attempt another? How much will the passengers help or hinder the pilots thought processes? When, and how, should the ballistic parachute system be deployed, and what

are its limitations. This scenario sparked questions about the capabilities and limitations of the autopilot, cockpit automation, and the parachute system. More importantly, it caused the pilots in the room to examine how they should gather critical information, assess the risks inherent in the flight, and take timely action. All agreed that a few accurate decisions before and during the early part of the flight reduced the risk to pilot and passengers.

All these questions were discussed in a lively thirty-minute session following the scenario. In this type of Scenario Based Training, the group discussion is just as important as the actual situation, for it is during the discussion that the pilots are most ready to learn, and begin to develop a mental model of how they might react to situations. Instead of encountering a once in a lifetime, life or death, situation alone on the proverbial dark and stormy night, the participants could examine how the situation had developed, understand the options available to them, and begin to develop a general plan of action well ahead of time.

Learner Centered Grading

The third component of the FITS training method, following each flight scenario, is to use the concept of "learner-centered grading." Learner centered grading includes two parts: learner self assessment and a detailed debrief by the instructor. The purpose of the self assessment is to stimulate growth in the learner's thought processes and, in turn, behaviors. The self-assessment is followed by an in-depth discussion between the instructor and the pilot in training which compares the instructor ratings to the pilot in training's self-assessment.

To improve learning, it is recommended that learners prepare to learn from their experiences both before and after key events. This preparation should increase learning and enhance future performance. Pre-briefs are essential for setting goals. During key events, especially those that require high levels of attention, there may be little time for learning; most individuals allocate the bulk of their cognitive resources to performing the actual task; however, they may also dedicate some cognitive resources to self-monitoring, learning, and correction.

How facilitation and feedback occur is important to the learning process. In order for feedback to be useful for both informational and motivational purposes, it should be designed systematically. For example, the facilitator (Flight Instructor) should avoid lecturing the learner, and should withhold their observations and opinions of the exercise until the learner has given their opinion. The use of closed-ended questions may stymie the usefulness of the feedback process as well, as they encourage one-word/yes/no types of answers that do not elicit opinions of performance or suggestions for improvement. It is more effective to use open-ended questions that probe the learner to assess their own performance. Allotting enough time for the feedback is also important. Debriefs that are rushed often turn into one-way "lectures" due to time constraints. Referring to prior pre-briefs when conducting subsequent debriefs provides a sense of continuity, reliability, and consistency, all of which are desirable attributes of a feedback source. Reminding learners of goals and lessons learned from prior exercises helps them plan for future events. Learners may also be more receptive to feedback during a debrief if they were appraised of the goal criteria in a pre-brief.

The FITS approach utilizes scenarios to teach Single Pilot Resource Management (SRM) while simultaneously teaching individual tasks such as landings and takeoffs. The authors quickly realized that this required a new approach to the pilot in training's performance measurement. Traditional grading approaches are generally teacher centered and measure performance against an empirical standard. The following example of a traditional flight syllabus demonstrates.

Table 4: A Traditional Grading Scale

- Excellent - the pilot in training has performed in an excellent manner
- Good – the pilot in training has exceeded basic requirements
- Satisfactory – the pilot in training has met basic standards
- Marginal – the pilot in training has failed to perform the task standards
- Unsatisfactory – the pilot in training has demonstrated significant performance difficulties

Table 5: A Traditional Lesson

Lesson Tasks	Lesson Sub Tasks	Lesson Grading
Flight Planning	Flight Planning Weight and Balance and Aircraft Performance Calculations	U, M, S, G, E U, M, S, G, E
Normal Preflight and Cockpit Procedures	Normal Pre-Takeoff Checklist Procedures GPS/Avionics Programming MFD /PFD Setup	U, M, S, G, E U, M, S, G, E U, M, S, G, E

This type of grading scale (See Table 4), or something similar, is in wide use throughout the aviation training industry. While it appears to be based on published standards, in reality it is often used as a tool to determine pilot in training progress and provide motivation. Thus, on the first lesson a pilot in training may receive an "Excellent" grade for attempting to plan the flight and accomplishing the weight and balance with a few minor errors. However, by the third flight, that same performance may only earn a "Satisfactory" grade due to lack of pilot in training progress (***note that while performance remained the same, the grade changed***). Additionally, the Flight Instructor awards the grade based on his or her observation of the pilot in training's performance. This observation, while accurate, may not be based on an understanding of the pilot in training's level of knowledge and understanding of the task. Lastly, the pilot in training has been conditioned since grade school to look at grades as a reward for performance and may feel that there is a link between grades earned and their self-esteem. In reality, none of this aids pilot in training performance in any meaningful way.

The learner centered grading approach addresses these the above concerns. First, the grade is now a "Desired Scenario Outcome." These outcomes describe pilot in training-learning behavior in readily identifiable and measurable terms. They reflect the pilot in training's ability to see, understand, and apply the skills and tasks that are learned to the scenario.

For instance, a pilot in training who can "explain" a successful landing has achieved the basic level of competence to begin the learning process. Once the pilot in training can "explain" the effect of crosswind and speed reduction on rudder effectiveness, they have achieved a level of learning that will allow for meaningful "Practice." The "Perform" level denotes unsupervised practice and self-correction of errors. These grades are equally applicable to the first scenario to the last since they are not lesson dependent.

The grade of "Manage/Decide" is used solely for SRM grading and the grade of "Perform" is used solely for task grading. A pilot in training who is becoming proficient at aeronautical decision-making and risk management would be graded first at the

"Explain" level, then at the "Practice", and finally at the "Manage/Decide" level. A Manage/Decide or Perform grade does not describe perfection. Rather, these grades simply show a proficient pilot who corrects their own errors so that the outcome of the flight is never in doubt. Realistically, this is the performance level we desire. All pilots make mistakes, it is in learning to identify and correct mistakes that they become proficient pilots.

Desired Outcomes

The objective of scenario-based training is a change in the thought processes, habits, and behaviors of the pilot in training during the planning and execution of the scenario. Since the training is learner centered, the success of the training is measured in the following desired pilot in training outcomes.

(a) Maneuver Grades (Tasks)

- Describe – at the completion of the scenario, the PT will be able to describe the physical characteristics and cognitive elements of the scenario activities. *Instructor assistance is required to successfully execute the maneuver.*
- Explain –at the completion of the scenario the PT will be able to describe the scenario activity and understand the underlying concepts, principles, and procedures that comprise the activity. *Significant instructor effort will be required to successfully execute the maneuver.*
- Practice – at the completion of the scenario the pilot in training will be able to plan and execute the scenario. *Coaching, instruction, and/or assistance from the CFI will correct deviations and errors identified by the CFI.*
- Perform – at the completion of the scenario, the PT will be able to perform the activity without assistance from the CFI. *Errors and deviations will be identified and corrected by the PT in an expeditious manner.* At no time will the successful completion of the activity be in doubt. ("Perform" will be used to signify that the PT is satisfactorily demonstrating proficiency in traditional piloting and systems operation skills)
- Not Observed – Any event not accomplished or required

(b) Single Pilot Resource Management (SRM) Grades

- Explain – the pilot in training can verbally identify, describe, and understand the risks inherent in the flight scenario. *The pilot in training will need to be prompted to identify risks and make decisions.*
- Practice –the pilot in training is able to identify, understand, and apply SRM principles to the actual flight situation. *Coaching, instruction, and/or assistance from the CFI will quickly correct minor deviations and errors identified by the CFI.* The pilot in training will be an active decision maker.

- Manage/Decide - the pilot in training can correctly gather the most important data available both within and outside the cockpit, identify possible courses of action, evaluate the risk inherent in each course of action, and make the appropriate decision. *Instructor intervention is not required for the safe completion of the flight.*
- Not Observed – Any event not accomplished or required

Grading will be conducted independently by the pilot in training and the instructor, and then compared during the post flight critique.

Learner centered grading (outcomes assessment) is a vital part of the FITS concept. Previous syllabi and curriculum have depended on a grading scale designed to maximize pilot in training management and ease of instructor use. Thus the traditional: "excellent, good, fair, poor" or "exceeds standards, meets standards, needs more training" often meet the instructor's needs but not the needs of the pilot in training. The learner centered grading described above is a way for the instructor and pilot in training to determine the pilot in training's level of knowledge and understanding. "Perform" is used to describe proficiency in a skill item such as an approach or landing. "Manage-Decide" is used to describe proficiency in the SRM area such as ADM. Describe, explain, and practice are used to describe pilot in training learning levels below proficiency in both.

Grading should be progressive. During each flight, the pilot in training should achieve a new level of learning (e.g. flight one, the automation management area, might be a "describe" item by flight three a "practice" item, and by flight five a "manage-decide" item.

Example of Learner Centered Grading

Immediately after landing, and before beginning the critique, Flight Instructor Linda asks her pilot in training Brian to grade his performance for the day. Being asked to grade himself is a new experience but he goes along with it. The flight scenario had been a two-leg IFR scenario to a busy class B airport about 60 miles to the east. Brian had felt he had done well in keeping up with programming the GPS and the MFD until he reached the approach phase. He had attempted to program the ILS for runway 7L and had actually flown part of the approach until ATC asked him to execute a missed approach.

When he went to place a grade in that block he noticed that the grades were different. Instead of satisfactory or unsatisfactory he found, "Describe, Explain, Practice, and Perform". He decided he was at the Perform level since he had not made any mistakes.

When Linda returned Brian discovered that she had graded his flight as well, with a similar grade sheet. Most of their grades appeared to match until the item labeled "programming the approach". Here, where he had placed a "Perform" Linda had placed a "Explain". This immediately sparked a discussion. As it turned out, Brian had selected the correct approach, but he had not activated it. Before Linda could intervene, traffic dictated a go around. Her explain grade told Brian that he did not really understand how the GPS worked and he agreed. Now, learning could occur.

In Table 6, the desired outcome table denotes a pilot in training near the beginning of training and the grades reflect proficiency of the pilot in training to an expected level of performance in each of these areas. These grades are not self-esteem related since they do not describe a recognized level of prestige (such as A+ or "Outstanding"), rather a level of performance. You can't flunk a lesson. However, you can fail to demonstrate the required flight and SRM skills. By reflecting on the lesson and grading their own performance, the pilot in training becomes actively involved in the critique process. Pilot in training participation in the process also reduces the self-esteem issue. But most importantly, this establishes the habit of healthy reflection and self-criticism that marks most competent pilots.

Table 6: Learner Centered Scenario Grading-Desired Outcome Table

Scenario Activities	Scenario Sub Activities	Desired Scenario Outcome
Flight Planning	1. Scenario Planning 2. Weight and Balance and Aircraft Performance Calculations 3. Preflight SRM Briefing 4. Decision making and risk management	1. Perform 2. Perform 3. Perform 4. Explain/Practice
Normal Preflight and Cockpit procedures	1. Normal Pre-Takeoff Checklist Procedures 2. GPS Programming 3. MFD Setup 4. PFD Setup	1. Perform 2. Explain/Practice 3. Practice 4. Explain/Practice
Engine Start and Taxi Procedures	1. Engine Start 2. Taxi 3. SRM/Situational Awareness	1. Perform 2. Perform 3. Explain/Practice
Before Takeoff Checks	1. Normal and Abnormal Indications 2. Aircraft Automation Management 3. Aeronautical Decision Making and Risk management	1. Perform 2. Explain/Practice 3. Manage/Decide

SECTION 5 – FITS INSTRUMENT FLIGHT INSTRUCTOR CERTIFICATION SYLLABUS

Introduction

To the Pilot-in-Training (PT) and Instructor

This Instrument Flight Instructor Certification (CFII) Syllabus is unique in several ways that you should be familiar with as you use the syllabus to acquire the FAA Instrument Flight Instructor Certification. First, it is a syllabus that uses real-world scenarios as the foundation of the training. This generic syllabus follows the FAA/Industry Training Standards (FITS) accepted training method. It's to be used as a guide for developing your own FITS accepted syllabus that fits your specific flight school, aircraft, and environment. Flight maneuvers are still a vital part of flight training and flight maneuvers are a part of this syllabus, but real-world scenarios are used to enhance the pilot's decision making skills. The syllabus presents situations and circumstances that CFIIs face every day as learning experiences and lessons. The primary tenet of FITS training is that you prepare for the real world of CFII instruction, by acting as a CFII while in training. Therefore, throughout the syllabus, the pilot in training (PT) will take on different tasks or jobs just as if they were already a CFII. The second important unique feature of this syllabus, and of FITS training, is that it is all competency based. The times shown in each lesson are target times and should not be considered the minimum or maximum ground/flight time for the lesson. When the PT masters a particular skill area in the syllabus, they move on regardless of how much time it takes to reach that point of mastery. This means that each lesson does not necessarily equal one flight. It may take several flights before the PT masters the elements of the lesson and is ready to move on to the next lesson. Consequently, the amount of total flight hours a PT has when the syllabus is completed may be more or less than the minimum times under current aviation regulations. Please note that FITS is conducted under the current rules. Although philosophically, FITS is competency based, many training organizations must still require their students to meet the FAA minimum training hours. Courses under Parts 142 and section 141.55(d) may be approved to train to a standard.

Using of Decision-Making scenarios in flight training

The PT, in this syllabus, is the instructor seeking the Instrument Flight Instructor Certification. Thus, the PT will be the CFI learning how to develop and use effective scenario-based learning. The PT will be asked to assume various instructional situations and asked to develop and use scenario-based learning to teach a student in the various situations. In other words, the PT will be placed in a scenario, instructional situation, where the PT is instructing an instrument student and the PT will be expected to use a scenario to teach the student. The following discussion addresses how the CFI could use the decision-making scenario method.

For years, good flight instructors have incorporated some form of scenario-based learning into their flight training. Usually during a flight the CFI would tell the PT that something

has occurred, such as deteriorating weather, an aircraft malfunction, or air traffic delay. The PT is to assume that the occurrence is actually real and to act accordingly. The PT might decide to divert to a different airport after the CFI tells them that the weather at their destination is poor. The PT may decide to change from the original plan and flies to a different airport. The difference between that and FITS is that FITS also incorporates the consequences of the failure to arrive at the originally planned airport. If a PT decides to fly to an alternate airport instead of the original destination because the CFI "makes up" a story that the weather is bad, then that alone does not consider the consequences of that decision. What if, rather than a training flight, the flight to the original destination was to deliver a human organ for transplant – the decision to divert to an alternate airport could have the consequence of the patient dying that was awaiting the transplant. If the pilot understood that their decision has actual life or death consequences, then the decision to divert will be more difficult. In the real world, these are the type of decisions a pilot faces everyday – so in this syllabus we train the pilot to be ready to make those decisions. For these reasons, most of the lessons in this syllabus are actual "missions" that carry with them actual reasons for the flight and actual consequences for the decisions the pilot will make. The lessons are not "scripted" to the point that every outcome is known in advance. The PT and flight instructor must be flexible enough to accept this fact. Different PTs will make different decisions, and these different decisions will alter the outcome of each flight. Using real world scenarios as part of flight training does not in any way diminish the need for pilots to also have good "stick and rudder" skills. Pilots will always need the skills, for instance, to land in a crosswind (although enhanced decision skills will prevent them from attempting a dangerous crosswind landing in the first place!). The lessons in this syllabus therefore are all part "mission" training and part "maneuvers" training on a sliding scale. None of the lessons in this syllabus are 100% mission and none are 100% maneuvers. The amount that any lesson is mission-based or maneuver-based is determined by the completion standards of that lesson.

The Pilot-In-Training Plays a Role in Grading the Lesson

Again, the PT training will learn how to use student-centered grading through instruction and through participation in a student-centered grading process during the course of this training.

Student Centered grading means that after each flight, the PT and instructor will have a discussion of the items that were encountered on the flight and each will evaluate the items. The PT will judge her/his own performance. The instructor, likewise will judge the PT's performance and then the PT and instructor will compare evaluations. There will be items that both the PTs and instructor will agree were performed well and other that both agree could use improvement. Inevitably, the PT and instructor's evaluations will disagree. This will be a great opportunity to discuss alternate methods, solutions and techniques that could have been used by the PT to have produced a more favorable outcome to the lesson. Mission based flight lessons can have multiple outcomes that are "correct." The PT and instructor will discuss if the outcome of the flight was a safe outcome – which is the primary concern of any flight.

Beyond the basic safety of the flight, the PT and instructor will discuss if the outcome could have been even better – optimized. The instructor will use a "rubric" to grade the lessons based on what is an unacceptable outcome, versus a range of possible acceptable outcomes.

The Format of Each Lesson

Each lesson in this syllabus will have the same format. The PT and instructor should read through the format information before the flight and as preparation for the flight. Each lesson will have:

1. Strand and Lesson Number
2. Mission
3. Title and Lesson Time
4. Scenario
5. Scenario Objectives
6. Scenario Completion Standards
7. Learning Objectives/Desire Outcome/Grade Sheet
8. Next lesson preview and assignments

Syllabus Shuffle

This FITS Instrument Flight Instructor Certification Syllabus has one more unique feature. It contains six "learning strands." The strands are: Lesson Preparation and Flight Instruments, Basic Attitude Instrument Flying and Navigation Systems, Instrument Flight Regulations and Publications, Instrument Approach Procedures, IFR En-route Procedures, and Oral and Flight Evaluation. A PT does not have to complete one strand before beginning on another. The syllabus is designed to be "shuffled" and to allow maximum flexibility to meet training constraints. There are some prerequisite lessons that must follow in a particular order, but most lessons can come in any order. If an instructor and PT had previously completed ground lessons 4 through 6 and are scheduled for flight lesson 7 or 8 today, but the weather at the destination prevents that lesson, the instructor could switch and conduct lesson 9 or flight lesson 12 if ground lesson 11 had already been completed. Remember that the PT is acquiring teaching skills rather than motor skills; thus, completing the Basic Attitude Instrument Flight strand is not necessary before practicing instruction in the Instrument Approach and the IFR En-route Procedures strands.

Instrument Flight Instructor Certification Syllabus

	Gnd Lesson 4				
	Gnd Lesson 5		Gnd Lesson 11		Gnd Lesson 18
Gnd Lesson 1	Gnd Lesson 6		Flt Lesson 12	Gnd Lesson 15	Flt Lesson 19
Gnd Lesson 2	Flt Lesson 7	Gnd Lesson 9	Flt Lesson 13	Flt Lesson 16	Flt Lesson 20
Flt Lesson 3	Flt Lesson 8	Flt Lesson 10	Flt Lesson 14	Flt Lesson 17	Flt Lesson 21
Lesson Prep	BAIF	Regs/Pubs	Approaches	En-route	Eval

Ground lessons are Knowledge Acquisition Lessons and must come before the Flight Lesson/s in respective columns. Flight lessons within a column can be completed in any order once the ground lessons for the column are completed. Columns of lessons may be started and/or completed in any order except the Evaluation column which cannot be started until all other lessons are completed. Lessons 19 and 20 are the final training lessons before the FAA practical test and lesson 21 is the FAA Instrument Airplane Practical Test. Typically, the assigned instructor will conduct ground lesson 18 and flight lesson 19, a senior flight instructor will conduct flight lesson 20, and a FAA pilot examiner or designed examiner will complete flight lesson 21.

FITS Instrument Flight Instructor Certification Curriculum Outline

I. Lesson Preparation and Flight Instruments
- Ground Lesson 1
- Ground Lesson 2
- Flight Lesson 3

II. Basic Attitude Instrument Flying and Navigation Systems
- Ground Lesson 4
- Ground Lesson 5
- Ground Lesson 6
- Flight Lesson 7
- Flight Lesson 8

III. Instrument Flight Regulations and Publications
- Ground Lesson 9
- Flight Lesson 10

IV. Instrument Approach Procedures
- Ground Lesson 11
- Flight Lesson 12
- Flight Lesson 13
- Flight Lesson 14

V. IFR En-route Procedures
- Ground Lesson 15
- Flight Lesson 16
- Flight Lesson 17

VI. Oral and Flight Evaluation
- Ground Lesson 18
- Flight Lesson 19
- Flight Lesson 20
- Flight Lesson 21

Lesson Preparation and Flight Instruments – Lesson 1
Oral Review for Instrument Practical Test – Mission
GND Lesson 1 (Approximate lesson time 1.5 hours)

Scenario

You are a CFII preparing a commercial pilot for the instrument oral examination. This is the last review prior to the Instrument Practical examination that is scheduled for tomorrow morning with a FAA examiner. The oral is scheduled in first thing tomorrow morning and the flight portion is scheduled just after lunch. Your student is the son of your boss and has not shown good understanding of the regulation as they relate to instrument flight and of the resource management concept. The boss fired the last instructor for providing his son with miss-information on his first attempt at the Commercial Pilot Practical Test. The boss is grooming his son to become the chief flight instructor in his FAA approved flight school.

Scenario Objective

The purpose of this lesson is to provide the PT with an overview of the Instrument Flight Instructor Certification Course (Airplane), scenario-based training, learner-centered grading, and single pilot resource management. Additionally, the PT is responsible for teaching the boss' son about scenario-based training, learner centered grading, and single pilot resource management.

This lesson will also include discussions on the use and understanding of the Instrument Rating and *Flight Instructor Instrument Airplane Practical Test Standards* and the local Safety Policies and Procedures, if applicable.

The Flight Instructor will lead a discussion on aeromedical factors while incorporating a discussion of personal minimums with the use of practical scenarios.

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the learning objectives table below. The PT will demonstrate the ability of incorporating aeronautical decision making scenarios when discussing aeromedical factors and personal minimums that may occur in actual instrument flight.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Instrument Flight Instructor Certification Course (Airplane)							

Understands the FITS scenario based training concept and learner centered grading	PRACTICE						
Understands the concept of student led training	PRACTICE						
Understands the concept of learner centered grading	PRACTICE						
Understands the completion standards for the course	PERFORM						
Instrument Rating and Flight Instructor Instrument Practical Test Standards							
Understands the role that the Practical Test Standards have in their training	PRACTICE						
Understands the use of the Practical Test Standards through the application of certification scenarios	PRACTICE						
Safety Policies and Procedures							
Understands the role that the Safety Policies and Procedures have in their training	PERFORM						
Properly applies the policies and procedures through discussions that include scenarios that may occur in actual instrument flight training	PERFORM						
Aeromedical Factors							
Discussed and is able to explain aeromedical factors, at an instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly discussed how aeromedical factors affect aeronautical decision making, risk management, and single pilot resource management	PRACTICE						
Properly discussed how aeromedical factor scenarios will be included in future training scenarios	PRACTICE						
Personal Minimums							
Understands the concept of establishing personal minimums for the purpose of aeronautical decision making and risk management	PRACTICE						
Properly established and discussed personal minimums	PRACTICE						

Assignment for Lesson 2

Aeronautical Information Manual

- Holding procedures
- Arrival procedures

Standard Instrument Approach Procedure Charts

14 CFR

- Part 91
- Part 97

Lesson Preparation and Flight Instruments – Lesson 2
Review for Instrument Practical Test – Mission
GND Lesson 2 (Approximate lesson time 3.0 hours)

Scenario

You are a CFII conducting a final ground review with a private pilot who is preparing for the Instrument Practical Test. You have never flown with the student before. The student has done the ground and flight training for the instrument rating with an instructor from a different flight school. The flight school does not have a strong reputation for the quality of instruction it provides. The instructor at the other flight school was a new hire and only recently became an instructor.

Scenario Objective

The purpose of this lesson is to ensure the PT possesses an instructor level of knowledge of instrument flight procedures. The Flight Instructor, the instructor training the PT, will lead a discussion on the tasks listed and incorporating task, risk, and automation management as it pertains to actual instrument flight.

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the learning objectives table below. The PT will demonstrate the ability of incorporating aeronautical decision making scenarios that may occur in actual instrument flight when discussing instrument flight procedures.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Holding Procedures							
Discussed and is able to explain holding procedures, at an Instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM).	PERFORM						
Discussed scenarios that could be utilized in holding procedure discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PRACTICE						
Discussed the concept of automation and task management as it pertains to holding procedures	PRACTICE						
Arrival Procedures							
Discussed and is able to explain arrival procedures, at an Instructor level, as outlined in the Flight Instructor	PERFORM						

Instrument Practical Test Standards and Aeronautical Information Manual (AIM)							
Discussed scenarios that could be utilized in arrival procedure discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PRACTICE						
Discussed the concept of automation and task management as it pertains to arrival procedures	PRACTICE						
Standard Departures/Terminal Arrival Charts							
Discussed and is able to explain standard departures/terminal arrival charts, at an Instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Discussed scenarios that could be utilized in standard departures/terminal arrival charts discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PRACTICE						
Discussed the concept of automation and task management as it pertains to standard departures/terminal arrival charts	PERFORM						
Standard Instrument Approach Procedure Charts							
Discussed and is able to explain standard instrument approach procedure charts, at an Instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Discussed scenarios that could be utilized in standard instrument approach procedure charts discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PRACTICE						
14 CFR Part 91 (See Note below)							
Discussed and is able to explain 14 CFR Part 91 regulations at an Instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Discussed scenarios that could be utilized in 14 CFR Part 91 discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PRACTICE						

Note: 14 CFR Part 91, to include:

- 91.3 Responsibility and authority of the Pilot In Command
- 91.21 Portable electronic devices
- 91.103 Preflight action
- 91.109 Flight instruction; simulated instrument flight and certain flight tests
- 91.169 IFR flight plans information required
- 91.171 VOR equipment check for IFR operations
- 91.173 ATC clearance and flight plan required
- 91.175 Takeoff and landing under IFR
- 91.183 IFR radio communications
- 91.187 Operation under IFR in controlled airspace: malfunction reports
- 91.205 Powered civil aircraft with standard category U.S. airworthiness certificate: instrument and equipment requirements
- 91.213 Inoperative instruments and equipment
- 91.215 ATC transponder and altitude reporting equipment use
- 91.411 Altimeter system and altitude reporting equipment tests and inspections

91.413 ATC transponder tests and inspections
91.417 Maintenance records

Assignment for Lesson 3

Instrument Rating Practical Test Standards

- Instrument cockpit check

Lesson Preparation and Flight Instruments – Lesson 3
Instrument Proficiency Check – Mission
FLT Lesson 3 (Approximate lesson time 1.3 hours)

DUAL – FLIGHT TRAINING DEVICE

Scenario

You are a CFII conducting an Instrument Proficiency Check in a single engine airplane to a 747 airline captain. The airline pilot is not instrument proficient as a single pilot in single engine airplanes and has flown less the 25 hours in single engine airplanes in the past two years. He is planning to fly his family from the New England area to Arizona to visit his wife's ailing mother tomorrow.

Scenario Objective

The purpose of this lesson is for the PT to perform instrument procedures prior to conducting practice ground and flight instruction lessons. The scenarios presented to the PT in this lesson include:

- Flight to another airport other than the departure airport
- Aircraft system malfunction and/or abnormalities
- In-flight emergencies
- Flight instrument failure and/or abnormalities
- Navigation failure
- Adverse weather
- Unusual attitude recovery

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the learning objectives table below in the form of an instrument proficiency check. The PT will demonstrate an acceptable use of aeronautical decision-making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single pilot resource management							
Effectively managed all resources available related to the flight lesson	PRACTICE						
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						
Identified and discussed areas of risk and make proper	PRACTICE						

decisions in managing those situations							
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	PRACTICE						
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Basic Instrument Flight Maneuvers							
Properly interpreted and crosschecked the instrument indications and applied the appropriate pitch, bank, yaw, power, and trim corrections	PERFORM						
Properly maintained altitude ±100 feet during level flight, headings within ±10º, airspeed within ±10 knots, and bank angles within ±5º during turns	PERFORM						
Unusual attitude recovery	PERFORM						
Departure Procedures							
Properly maintained situational awareness while transitioning from the airport area to the en-route environment	PERFORM						
Properly manage the automation for positional awareness	PERFORM						
Properly intercepted all courses, radials, and bearings appropriate to the procedure, route, or clearance	PERFORM						
DME Arc							
Properly manage the automation for positional and situational awareness	PERFORM						
Properly met the standards outlined in the Instrument Rating Practical Test Standards	PERFORM						
Recovery from Unusual Flight Attitudes							
Properly met the standards outlined in the Instrument Rating Practical Test Standards	PERFORM						
Identified reasons and/or examples of when an unusual flight attitude may occur	PERFORM						
Holding Procedures							
Properly met the standards outlined in the Instrument Rating Practical Test Standards	PERFORM						
Explained the decision making of conducting a holding procedure versus diverting to a suitable airport	PERFORM						
Non-precision Instrument Approach Procedure							
Properly met the standards outlined in the Instrument Rating Practical Test Standards	PERFORM						
Properly setup the avionics for the instrument approach procedure	PERFORM						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Properly made altitude callouts throughout the instrument approach procedure	PERFORM						
Properly determined whether a straight in or circling approach procedure should be conducted	PERFORM						

Non-precision Instrument Approach Procedure with the Loss of the Primary Flight Instrument Indicators							
Properly met the standards outlined in the Instrument Rating Practical Test Standards	PERFORM						
Properly identified the flight instrument failure and took appropriate action	PERFORM						
Properly setup the avionics for the instrument approach procedure with the loss of the primary flight instrument indicators	PERFORM						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Properly made altitude callouts throughout the instrument approach procedure	PERFORM						
Properly determined whether a straight in or circling approach procedure should be conducted	PERFORM						
Precision Instrument Approach Procedure							
Properly met the standards outlined in the Instrument Rating Practical Test Standards	PERFORM						
Properly setup the avionics for the instrument approach procedure	PERFORM						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Properly made altitude callouts throughout the instrument approach procedure	PERFORM						
Properly determined whether a straight in or circling approach procedure should be conducted	PERFORM						
Missed Approach							
Properly met the standards outlined in the Instrument Rating Practical Test Standards	PERFORM						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a missed approach	PRACTICE						
Properly configured and maintained control of the aircraft during the missed approach	PERFORM						
Circling Approach							
Properly met the standards outlined in the Instrument Rating Practical Test Standards	PERFORM						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a circling approach	PRACTICE						
Properly configured and maintained control of the aircraft during the missed approach	PERFORM						
Landing from a Straight-in or Circling Approach Procedure							
Maintained control of the aircraft while transitioning from IMC to VMC	PERFORM						
If applicable, safely maneuvered the aircraft during the circling approach procedure so that the aircraft was in a normal position to land	PERFORM						
Properly established a stabilized approach	PERFORM						

Properly executed a go-around if the safety of the landing was in doubt	PERFORM						
Postflight Discussion							
Identified areas that require improvement	PRACTICE						
Outlined recommendations for improvement	PRACTICE						
Overall Flight							
Effectively completed all checklist procedures	PERFORM						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PERFORM						
Effectively evaluated the proper operation of all instrument and navigation equipment	PERFORM						

Assignment for Lesson 4

Instrument Flying Handbook

- Aircraft Flight Instruments
- Instrument Cockpit Check

Aviation Instructor's Handbook

- Aeronautical decision making
- DECIDE model

Personal Minimums Checklist
(http://www.faa.gov/education_research/training/fits/guidance/media/personal%20minimums%20checklist.pdf)

- PAVE model

Basic Attitude Instrument Flying and Navigation Systems – Lesson 4
Initial Ground Briefing with a Private Pilot – Mission
GND Lesson 4 (Approximate lesson time 2.5 hours)

Scenario

You are a CFII conducting an initial ground briefing to a private pilot who is preparing for the Instrument Practical Test. You have flown with the student before. The student is a good student that participates actively in guided discussions about normal, abnormal, and emergency situation. The pilot is a new private pilot who has not flown outside of the training environment; thus, has very limited experience and has never experienced an actual emergency.

Scenario Objective

The PT will practice ground instruction to a simulated Pilot in Training by developing lesson plans and presenting aircraft flight instruments and the instrument cockpit check. The ground instruction will correlate decision making into the tasks by discussing task, risk, and automation management as it applies to actual instrument flight.

This lesson also includes a discussion of incorporating aeronautical decision making and risk management into instrument instruction through the development of scenarios.

Scenario Completion Standards

This practice ground instruction lesson is complete when the PT is able to meet the desired outcomes listed in the learning objectives table below. The PT will demonstrate the ability of presenting aeronautical decision making scenarios that may occur in actual instrument flight when presenting aircraft flight instruments and the instrument cockpit check.

The Flight Instructor will lead a discussion on aeronautical decision making and the application of scenarios in ground and flight training to develop risk management skills.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Lesson Plan Preparation							
Developed objectives and completion standards for the material to be presented	PRACTICE						
Outlined the content in a proper format so that the Pilot in Training will have a practical application of the knowledge and skill areas	PRACTICE						

Presented the material so that the risk management skills of the Pilot in Training will be further developed	PRACTICE						
Lesson Plan Presentation: Aircraft Flight Instruments							
Presented and discussed an accurate description of aircraft flight instruments as outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PRACTICE						
Presented scenarios to the Pilot in Training to address the risk management skills required for aircraft flight instrument malfunctions and abnormalities	PRACTICE						
Discussed the concept of automation and task management as it applies to aircraft flight instruments and risk management	PRACTICE						
Lesson Plan Presentation: Instrument Cockpit Check							
Presented and discussed an accurate description of instrument cockpit checks as outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PRACTICE						
Presented scenarios to the Pilot in Training to address the risk management skills required for malfunctions and abnormalities	PRACTICE						
Aeronautical Decision Making							
Discussed and is able to explain aeronautical decision making at an instructor level as outlined in the Aviation Instructor's Handbook	PRACTICE						
Discussed and is able to explain the use of the PAVE and DECIDE model into instrument flight training	PRACTICE						
Discussed and is able to explain assessing the risk of a student and flight lesson	PRACTICE						
Discussed and is able to explain factors that affect decision making	PRACTICE						
Discussed and is able to explain incorporating aeronautical decision making scenarios into ground briefings and flight lessons to emphasize risk management and single pilot resource management	PRACTICE						

Assignment for Lesson 5

Lesson Plan Preparation

- Navigation Equipment
- Intercepting and Tracking Navigational Systems and DME Arcs

Basic Attitude Instrument Flying and Navigation Systems – Lesson 5
Practice Ground Instruction – Mission
GND Lesson 5 (Approximate lesson time 2.5 hours)

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The PT will practice ground instruction to a simulated Pilot in Training by developing lesson plans and presenting navigation equipment and intercepting and tracking navigational systems and DME arcs. The ground instruction will correlate decision making into the tasks by discussing task, risk, and automation management as it applies to actual instrument flight.

Scenario Completion Standards

This practice ground instruction lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability of presenting aeronautical decision making scenarios that may occur in actual instrument flight when presenting navigation equipment and intercepting and tracking navigational systems and DME arcs.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Lesson Plan Preparation							
Developed objectives and completion standards for the material to be presented	PRACTICE						
Outlined the content in a proper format so that the Pilot in Training will have a practical application of the knowledge and skill areas	PRACTICE						
Presented the material so that the risk management skills of the Pilot in Training will be further developed	PRACTICE						
Lesson Plan Presentation: Navigation Equipment							
Presented and discussed an accurate description of navigation equipment as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM)	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PRACTICE						

Presented scenarios to the Pilot in Training to address the risk management skills required for aircraft navigation equipment malfunctions and abnormalities	PRACTICE						
Lesson Plan Presentation: Intercepting and Tracking Navigational Systems and DME Arcs							
Presented and discussed an accurate description of intercepting and tracking navigational systems and DME arcs as outlined in the Flight Instructor Instrument Practical Test Standards and Instrument Flying Handbook	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PRACTICE						
Presented scenarios to the Pilot in Training to address the risk management skills required for malfunctions and abnormalities	PRACTICE						
Discussed the concept of automation management as it applies to navigation equipment, intercepting and tracking navigational systems, DME arcs, and risk management	PRACTICE						
Aeronautical Decision Making							
Discussed and is able to explain incorporating aeronautical decision making scenarios into ground briefings and flight lessons to emphasize risk management and single pilot resource management	MANAGE/ DECIDE						

Assignment for Lesson 6

Lesson Plan Preparation

- Flight by Reference to Instruments
- Holding Procedures
- ATC Clearances

Basic Attitude Instrument Flying and Navigation Systems – Lesson 6
Practice Ground Instruction – Mission
GND Lesson 6 (Approximate lesson time 2.5 hours)

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The PT will practice ground instruction to a simulated Pilot in Training by developing lesson plans and presenting flight by reference to instruments, holding patterns, and air traffic control clearances. The ground instruction will correlate decision making into the tasks by discussing task, risk, and automation management as it applies to actual instrument flight.

Scenario Completion Standards

This practice ground instruction lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability of presenting aeronautical decision making scenarios that may occur in actual instrument flight when presenting flight by reference to instruments, holding patterns, and air traffic control clearances.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Lesson Plan Preparation							
Developed objectives and completion standards for the material to be presented	PRACTICE						
Outlined the content in a proper format so that the Pilot in Training will have a practical application of the knowledge and skill areas	PRACTICE						
Presented the material so that the risk management skills of the Pilot in Training will be further developed	PRACTICE						
Lesson Plan Presentation: Flight by Reference to Instruments							
Presented and discussed an accurate description of flight by reference to instruments as outlined in the Flight Instructor Instrument Practical Test Standards and Instrument Flying Handbook	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PRACTICE						

Presented scenarios to the Pilot in Training to address the risk management skills required for flight by reference to instruments	PRACTICE						
Lesson Plan Presentation: Holding Procedures							
Presented and discussed an accurate description of holding procedures as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM)	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PRACTICE						
Presented scenarios to the Pilot in Training to address the risk management skills required for holding procedures malfunctions and abnormalities	PRACTICE						
Discussed the concept of automation and task management as it applies to navigation equipment, holding procedures, and risk management	PRACTICE						
Lesson Plan Presentation: ATC Clearances							
Presented and discussed an accurate description of ATC clearances as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM)	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PRACTICE						
Presented scenarios to the Pilot in Training to address the risk management skills required for ATC clearances	PRACTICE						

Assignment for Lesson 7

Preparation of the FTD Lesson 7 Plan of Action

Basic Attitude Instrument Flying and Navigation Systems – Lesson 7
Practice Flight Instruction – Mission
FLT Lesson 7 (Approximate lesson time 1.3 hours)

DUAL – FLIGHT TRAINING DEVICE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating. This is the private pilot's first lesson on tracking DME arcs and the third lesson on tracking VORs, NDBs, and localizers. The private pilot holds the course well once established; however, private pilot doesn't appear to be considering the effects of the winds during the intercept and initial tracking.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument instruction to a simulated Pilot in Training. The simulated Pilot in Training is an instrument student in the early portions of the Instrument Rating training being introduced the tasks listed.

The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. The PT should utilize the flight training device effectively in this practice flight lesson.

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	PRACTICE						
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						
Identified and discussed areas of risk and made proper decisions in managing those situations	PRACTICE						
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk	PRACTICE						

management while maintaining positional and situational awareness							
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Effectively managed the flight as an PT	PRACTICE						
Lesson Plan of Action Preparation and Discussion							
Prepared a plan of action that properly outlines the scenario objective	PRACTICE						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PRACTICE						
Basic Instrument Flight Maneuvers (While conducting practice flight instruction)							
Effectively demonstrated basic instrument flight maneuvers as listed in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PRACTICE						
Demonstrated proper and improper interpretation and crosscheck of instrument indications and applied the appropriate pitch, bank, power, and trim corrections	PRACTICE						
Intercepting and Tracking Navigational Aids (VOR, GPS, and localizer) (While conducting practice flight instruction)							
Effectively demonstrated intercepting and tracking navigational aids as listed in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PRACTICE						
Effectively demonstrated proper automation management while intercepting and tracking navigational aids	PRACTICE						
Effectively demonstrated proper situational and positional awareness while intercepting and tracking navigational aids	PRACTICE						
Intercepting and Tracking a DME Arc (While conducting practice flight instruction)							
Effectively demonstrated intercepting and tracking DME arc as listed in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PRACTICE						
Effectively demonstrated proper automation management while intercepting and tracking a DME arc	PRACTICE						
Effectively demonstrated proper situational and positional awareness while intercepting and tracking a DME arc	PRACTICE						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PRACTICE						
Outlined recommendations for improvement	PRACTICE						
Discussed the effectiveness of the lesson's plan of action	PRACTICE						
Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PRACTICE						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PRACTICE						
Properly applied altitude callouts throughout the lesson	PRACTICE						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Assignment for Lesson 8

Preparation of the FTD Lesson 8 Plan of Action

Basic Attitude Instrument Flying and Navigation Systems – Lesson 8
Practice Flight Instruction – Mission
FLT Lesson 8 (Approximate lesson time 1.3 hours)

DUAL – FLIGHT TRAINING DEVICE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument instruction to a simulated Pilot in Training. The simulated Pilot in Training is an instrument student in the early portions of their instrument training who is being introduced the tasks listed.

The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. The PT should utilize the flight training device effectively in this practice flight lesson.

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	PRACTICE						
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						
Identified and discussed areas of risk and made proper decisions in managing those situations	PRACTICE						
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	PRACTICE						
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Effectively managed the flight as an Instructor	PRACTICE						

Lesson Plan of Action Preparation and Discussion (While conducting practice instruction)							
Prepared a plan of action that properly outlines the scenario objective.	PRACTICE						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PRACTICE						
Intercepting and Tracking Navigational Aids (NDB) (While conducting practice flight instruction)							
Effectively demonstrated intercepting and tracking navigational aids as listed in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PRACTICE						
Effectively demonstrated proper automation management while intercepting and tracking navigational aids	PRACTICE						
Effectively demonstrated proper situational and positional awareness while intercepting and tracking navigational aids	PRACTICE						
Holding Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PRACTICE						
Effectively explained and demonstrated the affects of wind on the holding pattern procedures	PRACTICE						
Effectively explained and demonstrated holding procedures with the use of multiple navigation aids	PRACTICE						
Effectively explained and demonstrated proper situational and positional awareness while holding	PRACTICE						
Effectively explained and demonstrated proper automation management while holding	PRACTICE						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PRACTICE						
Outlined recommendations for improvement	PRACTICE						
Discussed the effectiveness of the lesson's plan of action	PRACTICE						
Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PRACTICE						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PRACTICE						
Properly applied altitude callouts throughout the lesson	PRACTICE						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Assignment for Lesson 9

Lesson Plan Preparation

- Compliance with departure, en-route, and arrival procedures and clearances
- Circling approach
- Landing from a straight-in or circling approach

Basic Attitude Instrument Flying and Navigation Systems – Lesson 9
Practice Ground Instruction – Mission
GND Lesson 9 (Approximate lesson time 2.5 hours)

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The PT will practice ground instruction to a simulated Pilot in Training by developing lesson plans and presenting compliance with departure, en-route, and arrival procedures and clearances, circling approach, and landing from a straight-in or circling approach. The ground instruction will correlate decision making into the tasks by discussing task, risk, and automation management as it applies to actual instrument flight.

Scenario Completion Standards

This practice ground instruction lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability of presenting aeronautical decision making scenarios that may occur in actual instrument flight when presenting compliance with departure, en-route, and arrival procedures and clearances, circling approach, and landing from a straight-in or circling approach.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Lesson Plan Preparation							
Developed objectives and completion standards for the material to be presented	PERFORM						
Outlined the content in a proper format so that the Pilot in Training will have a practical application of the knowledge and skill areas	PERFORM						
Presented the material so that the risk management skills of the Pilot in Training will be further developed	PERFORM						
Lesson Plan Presentation: Compliance with Departure, En-route, and Arrival Procedures and Clearances							
Presented and discussed an accurate description of compliance with departure, en-route, and arrival procedures and clearances as outlined in the Flight Instructor Instrument Practical Test Standards and the Aeronautical Information	PERFORM						

Manual (AIM)							
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PERFORM						
Presented scenarios to the Pilot in Training to address the risk management skills required for compliance with departure, en-route, and arrival procedures and clearances	PERFORM						
Lesson Plan Presentation: Circling Approach							
Presented and discussed an accurate description of a circling approach as outlined in the Flight Instructor Instrument Practical Test Standards and the Aeronautical Information Manual (AIM)	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PERFORM						
Presented scenarios to the Pilot in Training to address the risk management skills required for circling approaches	PERFORM						
Lesson Plan Presentation: Landing from a Straight-In or Circling Approach							
Presented and discussed an accurate description of landing from a straight-in or circling approach as outlined in the Instrument Flying Handbook and the Aeronautical Information Manual (AIM)	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PERFORM						
Presented scenarios to the Pilot in Training to address the risk management skills required for landing from a straight-in or circling approach	PERFORM						

Assignment for Lesson 10

Preparation of the FTD Lesson 10 Plan of Action

Basic Attitude Instrument Flying and Navigation Systems – Lesson 10
Practice Flight Instruction – Mission
FLT Lesson 10 (Approximate lesson time 1.5 hours)

DUAL – FLIGHT TRAINING DEVICE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument flight instruction to a simulated Pilot in Training. The simulated Pilot in Training is an instrument rating student being introduced the tasks listed.

The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. This lesson must include a flight to an airport other than the departure airport. The PT should utilize the flight training device effectively.

- Leg 1
  - Holding procedure
  - Nonprecision instrument approach procedure
- Leg 2
  - Abnormal and/or emergency procedure
  - ILS instrument approach procedure

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grade Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	PRACTICE						
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						

Identified and discussed areas of risk and made proper decisions in managing those situation	PRACTICE						
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	PRACTICE						
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Effectively managed the flight as an PT	PRACTICE						
Lesson Plan of Action Preparation and Discussion (While conducting practice instruction)							
Prepared a plan of action that properly outlines the scenario objective	PRACTICE						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PRACTICE						
Departure Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly maintained collision avoidance and traffic awareness while transitioning from the airport area to the en-route environment	PRACTICE						
Properly determined the type of terrain and other obstructions on or in the vicinity of the departure airport	PRACTICE						
Holding Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PRACTICE						
Effectively explained and demonstrated the affects of wind on the holding pattern procedures	PRACTICE						
Effectively explained and demonstrated holding procedures with the use of multiple navigation aids	PRACTICE						
Effectively explained and demonstrated proper situational and positional awareness while holding	PRACTICE						
Effectively explained and demonstrated proper automation management while holding	PRACTICE						
Abnormal and/or Emergency Procedure (While conducting practice flight instruction)							
Safely and effectively presented the abnormal and/or emergency procedure scenario during leg 1	PRACTICE						
Explained the risks and corrective action in managing a situation where an abnormal and/or emergency procedure is experienced	PRACTICE						
Properly managed the flight lesson during the simulated abnormal/emergency procedures	PRACTICE						
Nonprecision Instrument Approach Procedure (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly setup the avionics for the instrument approach procedure	PRACTICE						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PRACTICE						
Maintained the CDI needle within ¾ scale deflection	PRACTICE						
Maintained an appropriate rate of descent and maintained the MDA until an appropriate position	PRACTICE						

Properly determined whether a straight in or circling approach procedure should be conducted	PRACTICE						
ILS Instrument Approach Procedure (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly setup the avionics for the instrument approach procedure	PRACTICE						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PRACTICE						
Maintained the CDI and glideslope needle within ¾ scale deflection	PRACTICE						
Maintained an appropriate rate of descent	PRACTICE						
Properly transitioned to a landing or missed approach procedure at the DA/DH	PRACTICE						
Properly determined whether a straight in or circling approach procedure should be conducted	PRACTICE						
Missed Approach (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a missed approach	Manage/ Decide						
Properly configured and maintained control of the aircraft during the missed approach	PRACTICE						
Discussed the options available of holding, diverting, or conducting another instrument approach	PRACTICE						
Landing from a Straight-in or Circling Approach Procedure (While conducting practice flight instruction)							
Maintained control of the aircraft while transitioning from IMC to VMC	PRACTICE						
If applicable, safely maneuvered the aircraft during the circling approach procedure so that the aircraft was in a normal position to land	PRACTICE						
Identified at least two risks associated with and made appropriate decisions for the approach to landing	Manage/ Decide						
Properly established a stabilized approach	PRACTICE						
Properly executed a go-around if the safety of the landing was in doubt	PRACTICE						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PRACTICE						
Outlined recommendations for improvement	PRACTICE						
Discussed the effectiveness of the lesson's plan of action	PRACTICE						
Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PRACTICE						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PRACTICE						
Properly applied altitude callouts throughout the lesson	PRACTICE						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Aircraft Pilot Information Manual

- Aircraft systems related to a technically advanced aircraft (TAA)

Instrument Flying Handbook

- Aircraft systems related to IFR operations

Instrument Approach Procedures – Lesson 11
Briefing – Mission
GND Lesson 11 (Approximate lesson time 2.5 hours)

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is to ensure the PT possesses an instructor level of knowledge through a Flight instructor led discussion of aircraft systems related to technically advanced aircraft (TAA) and IFR operations.

The Flight Instructor and PT will discuss task, risk, and automation management as it pertains to aircraft systems related to technically advanced aircraft and IFR operations.

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability of incorporating aeronautical decision making scenarios that may occur in actual instrument flight when discussing aircraft systems related to TAA and IFR operations.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Aircraft Systems Related to Technically Advanced Aircraft (TAA)							
Discussed and is able to explain aircraft systems related to TAA at an Instructor level	PRACTICE						
Discussed scenarios that could be utilized in TAA system discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PERFORM						
Aircraft Systems Related to IFR Operations							
Discussed an accurate description of aircraft systems related to IFR operations as outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PERFORM						
Presented scenarios to the Pilot in Training to address the risk management skills required for aircraft systems related to IFR operations	PERFORM						

malfunctions and abnormalities							

Assignment for Lesson 12

- Preparation of the Aircraft Lesson 12 Plan of Action

Instrument Approach Procedures – Lesson 12
Practice Flight Instruction – Mission
FLT Lesson 12 (Approximate lesson time 1.5 hours)

DUAL - AIRPLANE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument instruction to a simulated Pilot in Training on an IFR cross country flight. The simulated Pilot in Training is an instrument rating student being introduced the tasks listed.

The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. The PT will make proper decisions in managing the flight lesson and safety of flight.

- Leg 1
  - Simulated IFR or actual IFR
  - Abnormal and emergency procedures
    - Alternator failure
  - Holding procedure
  - GPS instrument approach procedure
  - Missed approach
- Leg 2
  - Simulated IFR or actual IFR
  - Abnormal and emergency procedures
    - PFD lamp failure
  - VOR instrument approach procedure

This lesson requires a minimum of two legs and may be combined with lesson 13 to enable a longer cross country route. If combined, a full stop landing and lesson de-brief session must be conducted at the completion of leg two prior to conducting lesson 13. No more than 2 lessons may be combined.

Scenario Completion Standards

This practice flight instruction lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	PRACTICE						
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						
Identified and discussed areas of risk and made proper decisions in managing those situation	PRACTICE						
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	PRACTICE						
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Effectively managed the flight as an PT	PRACTICE						
Lesson Plan of Action Preparation and Discussion (While conducting practice instruction)							
Prepared a plan of action that properly outlines the scenario objective	PRACTICE						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PRACTICE						
Preflight Planning and Preparation (While conducting practice instruction)							
Properly obtained and interpreted the weather information available	PERFORM						
Completed the cross country planning for the lesson's route and weight and balance of the aircraft	PERFORM						
Completed the preflight inspection of the aircraft	PERFORM						
Air Traffic Control Clearances (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Aided situational awareness by listening to and interpreting all ATC clearances and instructions	PRACTICE						
Properly requested clarification or amendment, as appropriate, any time a clearance was not fully understood or was considered unacceptable from a safety standpoint	PRACTICE						
Departure Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly maintained collision avoidance and traffic awareness while transitioning from the	PRACTICE						

airport area to the en-route environment							
Properly determined the type of terrain and other obstructions on or in the vicinity of the departure airport	PRACTICE						
Basic Instrument Flight Maneuvers (While conducting practice flight instruction)							
Effectively demonstrated basic instrument flight maneuvers as listed in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PRACTICE						
Demonstrated proper and improper interpretation and crosscheck of instrument indications and applied the appropriate pitch, bank, power, and trim corrections	PRACTICE						
En-route procedures (While conducting practice flight instruction)							
Properly maintained automation management for positional and situational awareness	PRACTICE						
Made proper decisions without losing positional and situational awareness and never negatively affected the safety of flight	PRACTICE						
Properly maintained the CDI within ¾ scale deflection	PRACTICE						
Properly maintained altitude within 100 feet of the assigned altitude	PRACTICE						
Holding Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PRACTICE						
Effectively explained and demonstrated the affects of wind on the holding pattern procedures	PRACTICE						
Effectively explained and demonstrated holding procedures with the use of multiple navigation aids	PRACTICE						
Effectively explained and demonstrated proper situational and positional awareness while holding	PRACTICE						
Effectively explained and demonstrated proper automation management while holding	PRACTICE						
Abnormal and Emergency Procedures (While conducting practice flight instruction)							
Safely and effectively presented the unusual flight attitude scenario during leg 1	PRACTICE						
Explained the risks and corrective action in managing a situation where an unusual flight attitude was experienced	PRACTICE						
Safely and effectively presented the engine roughness scenario during leg 2	PRACTICE						
Explained the risks and corrective action in managing a situation where engine roughness has occurred	PRACTICE						
Properly managed the flight lesson and aircraft during the simulated abnormal/emergency procedures	PRACTICE						

GPS Instrument Approach Procedure (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards.	PRACTICE						
Properly setup the avionics for the instrument approach procedure	PRACTICE						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PRACTICE						
Maintained the CDI needle within ¾ scale deflection	PRACTICE						
Maintained an appropriate rate of descent and maintained the MDA until an appropriate position	PRACTICE						
Properly determined whether a straight in or circling approach procedure should be conducted	PRACTICE						
VOR Instrument Approach Procedure (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly setup the avionics for the VOR instrument approach procedure	PRACTICE						
Safely conducted the VOR instrument approach procedure while maintaining situational, positional, and traffic awareness	PRACTICE						
Maintained the CDI needle within ¾ scale deflection	PRACTICE						
Maintained an appropriate rate of descent and maintained the MDA until an appropriate position	PRACTICE						
Properly determined whether a straight in or circling approach procedure should be conducted	PRACTICE						
Missed Approach (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a missed approach	Manage/ Decide						
Properly configured and maintained control of the aircraft during the missed approach	PRACTICE						
Discussed the options available of holding, diverting, or conducting another instrument approach	PRACTICE						
Landing from a Straight-in or Circling Approach Procedure (While conducting practice flight instruction)							
Maintained control of the aircraft while transitioning from IMC to VMC	PRACTICE						
Safely maneuvered the aircraft so that the aircraft was in a normal position to land	PRACTICE						
Identified risks associated with and made appropriate decisions for the approach to landing	MANAGE/ DECIDE						

Properly established a stabilized approach	PRACTICE						
Properly executed a go-around if the safety of the landing was in doubt	PRACTICE						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PRACTICE						
Outlined recommendations for improvement	PRACTICE						
Discussed the effectiveness of the lesson's plan of action	PRACTICE						
Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PRACTICE						
Effectively completed all altitude callouts during climbs and descents	PRACTICE						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PRACTICE						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Assignment for Lesson 13

Preparation of the Aircraft Lesson 13 Plan of Action

Instrument Approach Procedures – Lesson 13
Practice Flight Instruction – Mission
FLT Lesson 13 (Approximate lesson time 1.5 hours)

DUAL - AIRPLANE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument instruction to a simulated Pilot in Training on an IFR cross country flight. The simulated Pilot in Training is a private pilot working on an instrument rating student being introduced the tasks listed.

The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. The PT will make proper decisions in managing the flight lesson and safety of flight.

- Leg 1
  - VFR departure (if able)
  - Weather changes to IFR en-route
  - Abnormal and emergency procedure
    - Recovery from unusual flight attitudes
  - Holding procedure
  - Localizer instrument approach procedure (front or back course)
  - Missed approach
- Leg 2
  - Simulated IFR or actual IFR
  - Abnormal and/or emergency procedure
    - Engine roughness
  - GPS instrument approach procedure with the loss of the primary flight instrument indicators

This lesson requires a minimum of two legs and may be combined with lesson 14 to enable a longer cross country route. If combined, a full stop landing and lesson de-brief session must be conducted at the completion of leg two prior to conducting lesson 14. No more than 2 lessons may be combined.

Scenario Completion Standards

This practice flight instruction lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	PRACTICE						
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						
Identified and discussed areas of risk and made proper decisions in managing those situations	PRACTICE						
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	PRACTICE						
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Effectively managed the flight as an Instructor	PRACTICE						
Lesson Plan of Action Preparation and Discussion (While conducting practice instruction)							
Prepared a plan of action that properly outlines the scenario objective	PERFORM						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PERFORM						
Preflight Planning and Preparation (While conducting practice instruction)							
Properly obtained and interpreted the weather information available	PERFORM						
Completed the cross country planning for the lesson's route and weight and balance of the aircraft	PERFORM						
Completed the preflight inspection of the aircraft	PERFORM						
Completed and discussed a risk assessment of the flight crew to include the IMSAFE checklist and PAVE model	PERFORM/ MANAGE/ DECIDE						
Air Traffic Control Clearances (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Aided situational awareness by listening to and interpreting all ATC clearances and instructions	PERFORM						
Properly requested clarification or amendment, as appropriate, any time a clearance was not fully understood or was considered unacceptable from a safety standpoint	PERFORM						
Departure Procedures (While conducting practice flight instruction)							

Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly maintained collision avoidance and traffic awareness while transitioning from the airport area to the en-route environment	PRACTICE						
Properly determined the type of terrain and other obstructions on or in the vicinity of the departure airport	PRACTICE						
Basic Instrument Flight Maneuvers (While conducting practice flight instruction)							
Effectively demonstrated basic instrument flight maneuvers as listed in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PERFORM						
Demonstrated proper and improper interpretation and crosscheck of instrument indications and applied the appropriate pitch, bank, power, and trim corrections	PERFORM						
En-route procedures (While conducting practice flight instruction)							
Properly maintained automation management for positional and situational awareness	PRACTICE						
Made proper decisions without losing positional and situational awareness and never negatively affected the safety of flight	PRACTICE						
Properly maintained the CDI within ¾ scale deflection	PRACTICE						
Properly maintained altitude within 100 feet of the assigned altitude	PRACTICE						
Holding Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PERFORM						
Effectively explained and demonstrated the affects of wind on the holding pattern procedures	PERFORM						
Effectively explained and demonstrated holding procedures with the use of multiple navigation aids	PERFORM						
Effectively explained and demonstrated proper situational and positional awareness while holding	PERFORM/ MANAGE/ DECIDE						
Effectively explained and demonstrated proper automation management while holding	PERFORM/ MANAGE/ DECIDE						
Abnormal and Emergency Procedures (While conducting practice flight instruction)							
Safely and effectively presented the unusual flight attitude scenario during leg 1	PRACTICE						
Explained the risks and corrective action in managing a situation where an unusual flight attitude was experienced	PRACTICE						
Safely and effectively presented the engine roughness scenario during leg 2	PRACTICE						
Explained the risks and corrective action in managing a situation where engine roughness	PRACTICE						

has occurred							
Properly managed the flight lesson and aircraft during the simulated abnormal/emergency procedures	PRACTICE						
Localizer Instrument Approach Procedure (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly setup the avionics for the instrument approach procedure	PRACTICE						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PRACTICE						
Maintained the CDI needle within ¾ scale deflection	PRACTICE						
(PRACTICE) Maintained an appropriate rate of descent and maintained the MDA until an appropriate position	PRACTICE						
Properly determined whether a straight in or circling approach procedure should be conducted	PRACTICE						
GPS Instrument Approach Procedure (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly setup the avionics for the instrument approach procedure	PRACTICE						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PRACTICE						
Maintained the CDI needle within ¾ scale deflection	PRACTICE						
Maintained an appropriate rate of descent and maintained the MDA until an appropriate position	PRACTICE						
Properly identified hazards associated with the loss of the primary flight instrument indicators	MANAGE/ DECIDE						
Properly determined whether a straight in or circling approach procedure should be conducted	PRACTICE						
Missed Approach (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a missed approach	MANAGE/ DECIDE						
Properly configured and maintained control of the aircraft during the missed approach	PRACTICE						
Discussed the options available of holding, diverting, or conducting another instrument approach	PRACTICE						
Landing from a Straight-in or Circling Approach Procedure (While conducting practice flight instruction)							
Maintained control of the aircraft while	PERFORM						

transitioning from IMC to VMC							
Safely maneuvered the aircraft so that the aircraft was in a normal position to land	PERFORM						
Identified risks associated with and made appropriate decisions for the approach to landing	MANAGE/ DECIDE						
Properly established a stabilized approach	PERFORM						
Properly executed a go-around if the safety of the landing was in doubt	PERFORM/ MANAGE/ DECIDE						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PRACTICE						
Outlined recommendations for improvement	PRACTICE						
Discussed the effectiveness of the lesson's plan of action	PRACTICE						
Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PERFORM						
Effectively completed all altitude callouts during climbs and descents	PERFORM						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PERFORM						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Assignment for Lesson 14

Preparation of the Aircraft Lesson 14 Plan of Action

Instrument Approach Procedures – Lesson 14
Practice Flight Instruction – Mission
FLT Lesson 14 (Approximate lesson time 1.5 hours)

DUAL - AIRPLANE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument instruction to a simulated Pilot in Training on an IFR cross country flight. The simulated Pilot in Training is an instrument rating student being introduced the tasks listed.

The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. The PT will make proper decisions in managing the flight lesson and safety of flight.

- Leg 1
  - Simulated IFR or actual IFR
  - Abnormal and emergency procedure
    - Sick passenger
  - ILS instrument approach procedure
  - Missed approach
- Leg 2
  - Simulated IFR or actual IFR
  - Abnormal and/or emergency procedure
    - PFD lamp failure
  - GPS instrument approach procedure with the loss of the primary flight instrument indicators

Scenario Completion Standards

This practice flight instruction lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	PRACTICE						
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						
Identified and discussed areas of risk and made proper decisions in managing those situations	PRACTICE						
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	PRACTICE						
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Effectively managed the flight as an Instructor	PRACTICE						
Lesson Plan of Action Preparation and Discussion (While conducting practice instruction)							
Prepared a plan of action that properly outlines the scenario objective	PERFORM						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PERFORM						
Preflight Planning and Preparation (While conducting practice instruction)							
Properly obtained and interpreted the weather information available	PERFORM						
Completed the cross country planning for the lesson's route and weight and balance of the aircraft	PERFORM						
Completed the preflight inspection of the aircraft	PERFORM						
Completed and discussed a risk assessment of the flight crew to include the IMSAFE checklist and PAVE model	PERFORM						
Air Traffic Control Clearances (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Aided situational awareness by listening to and interpreting all ATC clearances and instructions	PERFORM						
Properly requested clarification or amendment, as appropriate, any time a clearance was not fully understood or was considered unacceptable from a safety standpoint	PERFORM						
Departure Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight	PERFORM						

Instructor Instrument Practical Test Standards							
Properly maintained collision avoidance and traffic awareness while transitioning from the airport area to the en-route environment	PERFORM						
Properly determined the type of terrain and other obstructions on or in the vicinity of the departure airport	PERFORM						
Basic Instrument Flight Maneuvers (While conducting practice flight instruction)							
Effectively demonstrated basic instrument flight maneuvers as listed in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PERFORM						
Demonstrated proper and improper interpretation and crosscheck of instrument indications and applied the appropriate pitch, bank, power, and trim corrections	PERFORM						
En-route procedures (While conducting practice flight instruction)							
Properly maintained automation management for positional and situational awareness	PERFORM						
Made proper decisions without losing positional and situational awareness and never negatively affected the safety of flight	PERFORM						
Properly maintained the CDI within ¾ scale deflection	PERFORM						
Properly maintained altitude within 100 feet of the assigned altitude	PERFORM						
Abnormal and Emergency Procedures (While conducting practice flight instruction)							
Safely and effectively presented the unusual flight attitude scenario during leg 1	PRACTICE						
Explained the risks and corrective action in managing a situation where a passenger become ill.	PRACTICE						
Safely and effectively presented the engine roughness scenario during leg 2	PRACTICE						
Explained the risks and corrective action in managing a situation where the PDF has failed	PRACTICE						
Properly managed the flight lesson and aircraft during the simulated abnormal/emergency procedures	PRACTICE						
ILS Instrument Approach Procedure (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly setup the avionics for the instrument approach procedure	PRACTICE						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PRACTICE						
Maintained the CDI and glideslope needles within ¾ scale deflection	PRACTICE						
Maintained an appropriate rate of descent	PRACTICE						
Properly transitioned to a landing or missed approach procedure at the DA/DH	PRACTICE						
Properly determined whether a straight in or	PRACTICE						

circling approach procedure should be conducted							
GPS Instrument Approach Procedure (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly setup the avionics for the instrument approach procedure	PRACTICE						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PRACTICE						
Maintained the CDI needle within ¾ scale deflection	PRACTICE						
Maintained an appropriate rate of descent and maintained the MDA until an appropriate position	PRACTICE						
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards with a PDF failure	PRACTICE						
Properly identified hazards associated with the loss of the primary flight instrument indicators	Manage/ Decide						
Properly determined whether a straight in or circling approach procedure should be conducted	PRACTICE						
Missed Approach (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PRACTICE						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a missed approach	Manage/ Decide						
Properly configured and maintained control of the aircraft during the missed approach	PRACTICE						
Discussed the options available of holding, diverting, or conducting another instrument approach	PRACTICE						
Landing from a Straight-in or Circling Approach Procedure (While conducting practice flight instruction)							
Maintained control of the aircraft while transitioning from IMC to VMC	PERFORM						
Safely maneuvered the aircraft so that the aircraft was in a normal position to land	PERFORM						
Identified risks associated with and made appropriate decisions for the approach to landing	MANAGE/ DECIDE						
Properly established a stabilized approach	PERFORM						
Properly executed a go-around if the safety of the landing was in doubt	PERFORM						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PRACTICE						
Outlined recommendations for improvement	PRACTICE						
Discussed the effectiveness of the lesson's plan of action	PRACTICE						

Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PERFORM						
Effectively completed all altitude callouts during climbs and descents	PERFORM						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PERFORM						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Assignment for Lesson 15

Instrument Flying Handbook

- IFR cross country planning
- Weather information
- Loss of communications

Federal Aviation Regulations

IFR En-route Procedures – Lesson 15
Briefing – Mission
GND Lesson 15 (Approximate lesson time 2.5 hours)

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is to ensure the PT possesses an instructor level of knowledge through a Flight Instructor led discussion of the elements associated with IFR cross country operations.

The Flight Instructor and PT will discuss task, risk, and automation management as it pertains to IFR cross country operations.

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability of incorporating aeronautical decision making scenarios that may occur in actual instrument flight when discussing the elements associated with IFR cross country procedures.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
IFR Cross Country Planning							
Discussed and is able to explain IFR cross country planning, at an Instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM)	PERFORM						
Discussed scenarios that could be utilized in IFR cross country planning discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PERFORM						
Weather Information							
Discussed and is able to explain weather information, at an Instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM)	PERFORM						
Discussed scenarios that could be utilized in	PERFORM						

weather information that would emphasize risk management, aeronautical decision making, and single pilot resource management							
14 CFR Part 91 and Part 95 (See Note Below)							
Discussed and is able to explain federal aviation regulations, at an instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM)	PERFORM						
Discussed scenarios that could be utilized in federal aviation regulations discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PERFORM						
En-route Charts							
Discussed and is able to explain en-route charts, at an instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM)	PERFORM						
Discussed scenarios that could be utilized in en-route charts discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PERFORM						
Loss of Communications							
Discussed and is able to explain the loss of communications, at an instructor level, as outlined in the Flight Instructor Instrument Practical Test Standards and Aeronautical Information Manual (AIM)	PERFORM						
Discussed scenarios that could be utilized in loss of communication discussions that would emphasize risk management, aeronautical decision making, and single pilot resource management	PERFORM						

Note: 14 CFR Part 91, to include:
91.121 – altimeter settings
91.167 – fuel requirements for flight in IFR conditions
91.177 – minimum altitude for IFR operations
91.179 – IFR cruising altitude or flight level
91.181 – course to be flown

Assignment for Lesson 16

Preparation of the Aircraft Lesson 16 Plan of Action

IFR En-route Procedures – Lesson 16
Practice Flight Instruction – Mission
FLT Lesson 16 (Approximate lesson time 2.5 hours)

DUAL - AIRPLANE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating. This is the private pilot's first instrument cross-country flight. The private pilot has trouble intercepting and holding the course. The private pilot doesn't appear to be considering the effects of the winds during the intercept and initial course tracking. Additionally, the pilot has expressed concern about transitioning from the en-route to the approach phase of flight. The instructor should also cover others area he/she feels are appropriate from earlier lessons.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument instruction to a simulated Pilot in Training on an IFR cross country flight. The simulated Pilot in Training is an instrument rating student receiving instrument flight instruction on the tasks listed.

This lesson requires a minimum of three legs conducted as an IFR cross country flight with one airport at least 50 nm away from the original departure point. No landing is required; however, an instrument or visual approach procedure must be conducted at each airport.

The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. The PT will manage the lesson during all phases of flight. The PT will make proper decisions in managing the flight lesson and safety of flight.

This lesson requires a minimum of three legs and may be combined with lesson 17 to enable a longer cross country route. If combined, a full stop landing and lesson de-brief session must be conducted at the completion of leg three prior to conducting lesson 17. No more than 2 lessons may be combined.

Scenario Completion Standards

This practice flight instruction lesson is complete when the PT is able to meet the desired outcomes listed in the learning objectives table below. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	PRACTICE						
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						
Identified and discussed areas of risk and made proper decisions in managing those situations	PRACTICE						
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	PRACTICE						
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Effectively managed the flight as an Instructor	PRACTICE						
Lesson Plan of Action Preparation and Discussion (While conducting practice instruction)							
Prepared a plan of action that properly outlines the scenario objective	PERFORM						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PERFORM						
Preflight Planning and Preparation (While conducting practice instruction)							
Properly obtained and interpreted the weather information available	PERFORM						
Completed the cross country planning for the lesson's route and weight and balance of the aircraft	PERFORM						
Completed the preflight inspection of the aircraft	PERFORM						
Completed and discussed a risk assessment of the flight crew to include the IMSAFE checklist and PAVE model	PERFORM						
Air Traffic Control Clearances (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Aided situational awareness by listening to and interpreting all ATC clearances and instructions	PERFORM						
Properly requested clarification or amendment, as appropriate, any time a clearance was not fully understood or was considered unacceptable from a safety standpoint	PERFORM						
Departure Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight	PERFORM						

Instructor Instrument Practical Test Standards							
Properly maintained collision avoidance and traffic awareness while transitioning from the airport area to the en-route environment	PERFORM						
Properly determined the type of terrain and other obstructions on or in the vicinity of the departure airport	PERFORM						
En-route procedures (While conducting practice flight instruction)							
Properly maintained automation management for positional and situational awareness	PERFORM						
Made proper decisions without losing positional and situational awareness and never negatively affected the safety of flight	PERFORM						
Properly maintained the CDI within ¾ scale deflection	PERFORM						
Properly maintained altitude within 100 feet of the assigned altitude	PERFORM						
Holding Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PERFORM						
Effectively explained and demonstrated the affects of wind on the holding pattern procedures	PERFORM						
Effectively explained and demonstrated holding procedures with the use of multiple navigation aids	PERFORM						
Effectively explained and demonstrated proper situational and positional awareness while holding	PERFORM						
Effectively explained and demonstrated proper automation management while holding	PERFORM						
Abnormal and Emergency Procedures (While conducting practice flight instruction)							
Safely and effectively presented the abnormal and/or emergency scenario during leg 1	PERFORM						
Safely and effectively presented the abnormal and/or emergency scenario during leg 2	PERFORM						
Safely and effectively presented the abnormal and/or emergency scenario during leg 3	PERFORM						
Explained the risks and corrective action in managing the scenarios	PERFORM						
Properly managed the flight lesson and aircraft during the simulated abnormal and/or emergency procedures	PERFORM						
Instrument Approach Procedure/s (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly setup the avionics for the instrument approach procedure	PERFORM						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Maintained the CDI needle and glideslope	PERFORM						

needle (if applicable) within ¾ scale deflection							
Maintained an appropriate rate of descent and maintained the appropriate altitude until an appropriate position	PERFORM						
Properly determined whether a straight in or circling approach procedure should be conducted	PERFORM						
Visual Instrument Approach Procedure (If applicable) (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly setup the avionics for the instrument approach procedure	PERFORM						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Maintained an appropriate rate of descent and maintained the appropriate altitude until an appropriate position	PERFORM						
Missed Approach (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a missed approach	MANAGE/ DECIDE						
Properly configured and maintained control of the aircraft during the missed approach	PERFORM						
Discussed the options available of holding, diverting, or conducting another instrument approach	PERFORM						
Landing from a Straight-in or Circling Approach Procedure (While conducting practice flight instruction)							
Maintained control of the aircraft while transitioning from IMC to VMC	PERFORM						
If applicable, safely maneuvered the aircraft during the circling approach procedure so that the aircraft was in a normal position to land	PERFORM						
Identified at least two risks associated with and made appropriate decisions for the approach to landing	MANAGE/ DECIDE						
Properly established a stabilized approach	PERFORM						
Properly executed a go-around if the safety of the landing was in doubt	PERFORM						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PRACTICE						
Outlined recommendations for improvement	PRACTICE						
Discussed the effectiveness of the lesson's plan of action	PRACTICE						
Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PERFORM						
Effectively completed all altitude callouts	PERFORM						

during climbs and descents							
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PERFORM						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Assignment for Lesson 17

Preparation of the Aircraft Lesson 17 Plan of Action

IFR En-route Procedures – Lesson 17
Practice Flight Instruction – Mission
FLT Lesson 17 (Approximate lesson time 2.5 hours)

DUAL - AIRPLANE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating. This is the private pilot's first instrument cross-country flight. The private pilot is having trouble holding when the holding instructions are provided by air traffic control. The instructor should also cover others area he/she feels are appropriate from earlier lessons.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument instruction to a simulated Pilot in Training on an IFR cross country flight. The simulated Pilot in Training is private pilot working on an instrument rating student receiving instrument flight instruction on the tasks listed.

This lesson requires a minimum of three legs conducted as an IFR cross country flight with one airport at least 50 nm away from the original departure point. No landing is required; however, an instrument or visual approach procedure must be conducted at each airport.

The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. The PT will manage the lesson during all phases of flight. The PT will make proper decisions in managing the flight lesson and safety of flight.

Scenario Completion Standards

This practice flight instruction lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available	PRACTICE						

related to the flight lesson							
Discussed and demonstrated the proper use of automation management in all phases of flight	PRACTICE						
Identified and discussed areas of risk and made proper decisions in managing those situations	PRACTICE						
Discussed and demonstrated proper task management throughout the flight lesson	PRACTICE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	PRACTICE						
Discussed and demonstrated the avoidance of controlled flight into terrain	PRACTICE						
Effectively managed the flight as an Instructor	PRACTICE						
Lesson Plan of Action Preparation and Discussion (While conducting practice instruction)							
Prepared a plan of action that properly outlines the scenario objective	PERFORM						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PERFORM						
Preflight Planning and Preparation (While conducting practice instruction)							
Properly obtained and interpreted the weather information available	PERFORM						
Completed the cross country planning for the lesson's route and weight and balance of the aircraft	PERFORM						
Completed the preflight inspection of the aircraft	PERFORM						
Completed and discussed a risk assessment of the flight crew to include the IMSAFE checklist and PAVE model	PERFORM						
Air Traffic Control Clearances (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Aided situational awareness by listening to and interpreting all ATC clearances and instructions	PERFORM						
Properly requested clarification or amendment, as appropriate, any time a clearance was not fully understood or was considered unacceptable from a safety standpoint	PERFORM						
Departure Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly maintained collision avoidance and traffic awareness while transitioning from the airport area to the en-route environment	PERFORM						
Properly determined the type of terrain and other obstructions on or in the vicinity of the departure airport	PERFORM						
En-route procedures (While conducting practice flight instruction)							
Properly maintained automation management for positional and situational awareness	PERFORM						
Made proper decisions without losing positional	PERFORM						

and situational awareness and never negatively affected the safety of flight							
Properly maintained the CDI within ¾ scale deflection	PERFORM						
Properly maintained altitude within 100 feet of the assigned altitude	PERFORM						
Holding Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PERFORM						
Effectively explained and demonstrated the affects of wind on the holding pattern procedures	PERFORM						
Effectively explained and demonstrated holding procedures with the use of multiple navigation aids	PERFORM						
Effectively explained and demonstrated proper situational and positional awareness while holding	PERFORM						
Effectively explained and demonstrated proper automation management while holding	PERFORM						
Abnormal and Emergency Procedures (While conducting practice flight instruction)							
Safely and effectively presented the abnormal and/or emergency scenario during leg 1	PERFORM						
Safely and effectively presented the abnormal and/or emergency scenario during leg 2	PERFORM						
Safely and effectively presented the abnormal and/or emergency scenario during leg 3	PERFORM						
Explained the risks and corrective action in managing the scenarios	PERFORM						
Properly managed the flight lesson and aircraft during the simulated abnormal and/or emergency procedures	PERFORM						
Instrument Approach Procedure/s (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly setup the avionics for the instrument approach procedure	PERFORM						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Maintained the CDI needle and glideslope needle (if applicable) within ¾ scale deflection	PERFORM						
Maintained an appropriate rate of descent and maintained the appropriate altitude until an appropriate position	PERFORM						
Properly determined whether a straight in or circling approach procedure should be conducted	PERFORM						
Visual Instrument Approach Procedure (If applicable) (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						

Properly setup the avionics for the instrument approach procedure	PERFORM						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Maintained an appropriate rate of descent and maintained the appropriate altitude until an appropriate position	PERFORM						
Missed Approach (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a missed approach	MANAGE/ DECIDE						
Properly configured and maintained control of the aircraft during the missed approach	PERFORM						
Discussed the options available of holding, diverting, or conducting another instrument approach	PERFORM						
Landing from a Straight-in or Circling Approach Procedure (While conducting practice flight instruction)							
Maintained control of the aircraft while transitioning from IMC to VMC	PERFORM						
If applicable, safely maneuvered the aircraft during the circling approach procedure so that the aircraft was in a normal position to land	PERFORM						
Identified at least two risks associated with and made appropriate decisions for the approach to landing	PERFORM						
Properly established a stabilized approach	PERFORM						
Properly executed a go-around if the safety of the landing was in doubt	PERFORM						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PERFORM						
Outlined recommendations for improvement	PERFORM						
Discussed the effectiveness of the lesson's plan of action	PERFORM						
Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PERFORM						
Effectively completed all altitude callouts during climbs and descents	PERFORM						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PERFORM						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Assignment for Lesson 18

Federal Aviation Regulations

Lesson Plan Preparation

Oral and Flight Evaluation – Lesson 18
Briefing – Mission
GND Lesson 18 (Approximate lesson time 2.0 hours)

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is to ensure the PT possesses an instructor level of knowledge through a Flight Instructor led discussion of logbook entries related to instrument instruction. This lesson also provides an opportunity for the PT to practice instrument ground instruction to a simulated Pilot in Training on tasks deemed necessary by the Flight Instructor.

The practice instrument ground instruction must incorporate decision making into the tasks by discussing task, risk, and automation management as it applies to the tasks discussed.

Scenario Completion Standards

This lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability of presenting aeronautical decision making scenarios that may occur in actual instrument flight when presenting the instrument flight procedures deemed necessary by the Flight Instructor.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Logbook Entries Related to Instrument Instruction							
Discussed and is able to explain logbook entries related to instrument instruction	PERFORM						
Discussed scenarios that could be utilized in logbook entry related to instrument instruction discussions that would emphasize risk management	PERFORM						
14 CFR Part 61 (See Note Below)							
Discussed and is able to explain Federal Aviation Regulations at an Instructor level	PERFORM						
Discussed scenarios that could be utilized in Federal Aviation Regulation discussions that	PERFORM						

would emphasize risk management							
Lesson Plan Presentation: Determined by the Flight Instructor							
Presented and discussed an accurate description of the area of knowledge as outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Described the recognition, analysis, and correction of common errors a Pilot in Training may exhibit	PERFORM						
Presented scenarios to the Pilot in Training to address the risk management skills required	PERFORM						

Note: 14 CFR Part 61, to include:
61.57 – Recent flight experience: pilot in command
61.65 – Instrument rating requirements

Assignment for Lesson 19

Preparation of Lesson 19 Plan of Action

Oral and Flight Evaluation – Lesson 19
Practice Flight Instruction – Mission
FLT Lesson 19 (Approximate lesson time 1.5 hours)

DUAL - AIRPLANE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The purpose of this lesson is for the PT to practice instrument instruction tasks deemed necessary by the Flight Instructor to a simulated Pilot in Training.

This lesson will be conducted as an IFR cross country flight consisting of a minimum of two legs. The PT is responsible for the creation and presentation of the lesson's scenario and plan of action that meets the objectives of the lesson. The PT will manage all phases of the flight lesson. The PT will make proper decisions in managing the flight lesson and safety of flight.

Scenario Completion Standards

This practice flight instruction lesson is complete when the PT is able to meet the desired outcomes listed in the Learning Objectives section. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	MANAGE/ DECIDE						
Discussed and demonstrated the proper use of automation management in all phases of flight	MANAGE/ DECIDE						
Identified and discussed areas of risk and made proper decisions in managing those situations	MANAGE/ DECIDE						
Discussed and demonstrated proper task management throughout the flight lesson	MANAGE/ DECIDE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	MANAGE/ DECIDE						

Discussed and demonstrated the avoidance of controlled flight into terrain	MANAGE/ DECIDE						
Effectively managed the flight as an Instructor	MANAGE/ DECIDE						
Lesson Plan of Action Preparation and Discussion (While conducting practice instruction)							
Prepared a plan of action that properly outlines the scenario objective	PERFORM						
Properly conducted a preflight discussion outlining the objective and completion standards of the flight lesson	PERFORM						
Preflight Planning and Preparation (While conducting practice instruction)							
Properly obtained and interpreted the weather information available	PERFORM						
Completed the cross country planning for the lesson's route and weight and balance of the aircraft	PERFORM						
Completed the preflight inspection of the aircraft	PERFORM						
Completed and discussed a risk assessment of the flight crew to include the IMSAFE checklist and PAVE model	PERFORM						
Air Traffic Control Clearances (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Aided situational awareness by listening to and interpreting all ATC clearances and instructions	PERFORM						
Properly requested clarification or amendment, as appropriate, any time a clearance was not fully understood or was considered unacceptable from a safety standpoint	PERFORM						
Departure Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly maintained collision avoidance and traffic awareness while transitioning from the airport area to the en-route environment	PERFORM						
Properly determined the type of terrain and other obstructions on or in the vicinity of the departure airport	PERFORM						
Basic Instrument Flight Maneuvers (While conducting practice flight instruction)							
Effectively demonstrated basic instrument flight maneuvers as listed in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PERFORM						
Demonstrated proper and improper interpretation and crosscheck of instrument indications and applied the appropriate pitch, bank, power, and trim corrections	PERFORM						
En-route procedures (While conducting practice flight instruction)							
Properly maintained automation management for positional and situational awareness	PERFORM						
Made proper decisions without losing positional	PERFORM						

and situational awareness and never negatively affected the safety of flight							
Properly maintained the CDI within ¾ scale deflection	PERFORM						
Properly maintained altitude within 100 feet of the assigned altitude	PERFORM						
Holding Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument and Instrument Rating Practical Test Standards	PERFORM						
Effectively explained and demonstrated the affects of wind on the holding pattern procedures	PERFORM						
Effectively explained and demonstrated holding procedures with the use of multiple navigation aids	PERFORM						
Effectively explained and demonstrated proper situational and positional awareness while holding	PERFORM						
Effectively explained and demonstrated proper automation management while holding	PERFORM						
Abnormal and Emergency Procedures (While conducting practice flight instruction)							
Safely and effectively presented the abnormal and/or emergency scenario during leg 1	PERFORM						
Safely and effectively presented the abnormal and/or emergency scenario during leg 2	PERFORM						
Explained the risks and corrective action in managing the scenarios	PERFORM						
Properly managed the flight lesson and aircraft during the simulated abnormal and/or emergency procedures	PERFORM						
Instrument Approach Procedures (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly setup the avionics for the instrument approach procedure	PERFORM						
Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Maintained the CDI needle and glideslope needle (if applicable) within ¾ scale deflection	PERFORM						
Maintained an appropriate rate of descent and maintained the appropriate altitude until an appropriate position	PERFORM						
Properly determined whether a straight in or circling approach procedure should be conducted	PERFORM						
Visual Instrument Approach Procedure (If applicable) (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly setup the avionics for the instrument approach procedure	PERFORM						

Safely conducted the instrument approach procedure while maintaining situational, positional, and traffic awareness	PERFORM						
Maintained an appropriate rate of descent and maintained the appropriate altitude until an appropriate position	PERFORM						
Missed Approach (While conducting practice flight instruction)							
Properly met the standards outlined in the Flight Instructor Instrument Practical Test Standards	PERFORM						
Properly identified and made appropriate decisions of when to terminate the instrument approach procedure and conduct a missed approach	MANAGE/ DECIDE						
Properly configured and maintained control of the aircraft during the missed approach	PERFORM						
Discussed the options available of holding, diverting, or conducting another instrument approach	PERFORM						
Landing from a Straight-in or Circling Approach Procedure (While conducting practice flight instruction)							
Maintained control of the aircraft while transitioning from IMC to VMC	PERFORM						
If applicable, safely maneuvered the aircraft during the circling approach procedure so that the aircraft was in a normal position to land	PERFORM						
Identified at least two risks associated with and made appropriate decisions for the approach to landing	MANAGE/ DECIDE						
Properly established a stabilized approach	PERFORM						
Properly executed a go-around if the safety of the landing was in doubt	PERFORM						
Postflight Discussion (While conducting practice instruction)							
Identified areas that require improvement	PERFORM						
Outlined recommendations for improvement	PERFORM						
Discussed the effectiveness of the lesson's plan of action	PERFORM						
Overall Flight (While conducting practice instruction)							
Effectively completed all checklist procedures	PERFORM						
Effectively completed all altitude callouts during climbs and descents	PERFORM						
Complied with the procedures outlined in the POH/AFM and all supplements to them.	PERFORM						
Completed the objectives of this lesson to the desired levels of learning	PRACTICE						

Oral and Flight Evaluation – Lesson 20
Local Evaluation Flight – Mission
FLT Lesson 20 (Approximate lesson time - Oral 2.0 hours – Flight 1.4 hours)

DUAL – PRACTICE PRATICAL TEST– AIRPLANE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The Chief Flight Instructor or designee shall evaluate that the student has the ability to perform the tasks in the Flight Instructor Instrument Airplane Practical Test Standards. The student will perform as the PT and the stage check pilot will serve as the Pilot in Training.

This lesson will be conducted as an IFR cross country flight consisting of a minimum of two legs. The PT is responsible for creating the flight portion scenario and plan of action. This scenario and plan of action should be reviewed and discussed prior to the flight. The stage check pilot has final authority as to the actual scenario and plan of action that will be used.

The PT will manage all phases of the flight lesson. During the flight portion, the stage check pilot may deviate from the original scenario for the PT to teach, manage, and perform. The PT will make proper decisions in managing the flight and safety of flight.

Scenario Completion Standards

This stage check is complete when the PT is able to complete the tasks required in the Flight Instructor Instrument Practical Test Standards. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Evaluation – Oral Portion

The student must be able to manage, teach, and perform the tasks required by the Flight Instructor Instrument Practical Test Standards. See a current version of the Flight Instructor Practical Test Standards for specific oral tasks that must be covered on a practical test.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management							
Identified and discussed areas of risk and made proper decisions in managing those situations	MANAGE/ DECIDE						
Discussed proper task management	MANAGE/ DECIDE						
Discussed proper aeronautical decision making and risk management to maintaining positional and situational awareness	MANAGE/ DECIDE						

Evaluation – Flight Portion

The student must be able to explain, manage, teach, and perform the tasks required by the Flight Instructor Instrument Practical Test Standards. See a current version of the Flight Instructor Practical Test Standards for specific flight tasks that must be covered on a practical test.

It is not intended that the student be tested on every procedure or maneuver within each pilot operation, but only those considered necessary by the Chief Instructor or their designee to determine competency in each pilot operation.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	MANAGE/ DECIDE						
Discussed and demonstrated the proper use of automation management in all phases of flight	MANAGE/ DECIDE						
Identified and discussed areas of risk and made proper decisions in managing those situations	MANAGE/ DECIDE						
Discussed and demonstrated proper task management throughout the flight lesson	MANAGE/ DECIDE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	MANAGE/ DECIDE						
Discussed and demonstrated the avoidance of controlled flight into terrain	MANAGE/ DECIDE						
Effectively managed the flight as an PT	MANAGE/ DECIDE						

Oral and Flight Evaluation – Lesson 21
End of Course Evaluation – Mission
FLT Lesson 21 (Approximate lesson time - Oral 2.0 hours – Flight 1.4 hours)

DUAL – INSTRUMENT INSTRUCTOR PRACTICAL TEST – AIRPLANE

Scenario

You are a CFII instructing with a private pilot working on an instrument rating.

Scenario Objective

The Chief Flight Instructor or designee shall evaluate that the student has the ability to perform the tasks in the Flight Instructor Instrument Airplane Practical Test Standards. The student will perform as the PT and the stage check pilot will serve as the Pilot in Training.

This lesson will be conducted as an IFR cross country flight consisting of a minimum of two legs. The PT is responsible for creating the flight portion scenario and plan of action. This scenario and plan of action should be reviewed and discussed prior to the flight. The stage check pilot has final authority as to the actual scenario and plan of action that will be used.

The PT will manage all phases of the flight lesson. During the flight portion, the stage check pilot may deviate from the original scenario during the flight portion for the PT to teach, manage, and perform. The PT will make proper decisions in managing the flight and safety of flight.

Scenario Completion Standards

This stage check is complete when the PT is able to complete the tasks required in the Flight Instructor Instrument Practical Test Standards. The PT will demonstrate the ability to safely manage the flight lesson through an acceptable use of aeronautical decision making, risk management, and single pilot resource management.

Evaluation – Oral Portion

The student must be able to manage, teach, and perform the tasks required by the Flight Instructor Instrument Practical Test Standards. See a current version of the Flight Instructor Practical Test Standards for specific oral tasks that must be covered on a practical test.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management							
Identified and discussed areas of risk and made proper decisions in managing those situations	MANAGE/ DECIDE						
Discussed proper task management	MANAGE/ DECIDE						
Discussed proper aeronautical decision making and risk management to maintaining positional and situational awareness	MANAGE/ DECIDE						

Evaluation – Flight Portion

The student must be able to explain, manage, teach, and perform the tasks required by the Flight Instructor Instrument Practical Test Standards. See a current version of the Flight Instructor Practical Test Standards for specific flight tasks that must be covered on a practical test.

Learning Objectives/Desired Outcome/Grading Sheet

	Desired Outcome	Describe	Explain	Practice	Perform	Manage/Decide	Not observed
Demonstration of Single Pilot Resource Management (While conducting practice flight instruction)							
Effectively managed all resources available related to the flight lesson	MANAGE/ DECIDE						
Discussed and demonstrated the proper use of automation management in all phases of flight	MANAGE/ DECIDE						
Identified and discussed areas of risk and made proper decisions in managing those situations	MANAGE/ DECIDE						
Discussed and demonstrated proper task management throughout the flight lesson	MANAGE/ DECIDE						
Exercised proper aeronautical decision making and risk management while maintaining positional and situational awareness	MANAGE/ DECIDE						
Discussed and demonstrated the avoidance of controlled flight into terrain	MANAGE/ DECIDE						
Effectively managed the flight as an PT	MANAGE/ DECIDE						